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MEDICAL MEN AND LITERATURE.[1]

By H. BOYD GRAHAM,
Melbourne.

I do not know a better training for a writer than to spend some years in the medical profession.
SOMERSET MAUGHAM.

DR. SOMERSET MAUGHAM is one of the best known of modern dramatists, and in *The Summing Up*, his autobiographical volume, he has made some personal observations which throw light on the whole question of the influences of the medical sciences on literature. In childhood, Maugham was small and he stammered. His mother and sister died of tuberculosis, and early in life he lost his father. He entered Saint Thomas's Hospital, London, as a medical student in 1892, and he has described how "for three years he was in contact with life in the raw".

I must have witnessed pretty well every emotion of which man is capable. It appealed to my dramatic sense. It excited the novelist in me. Even now after forty years have passed I can remember certain people so exactly that I could draw a picture of them. Phrases that I heard then still linger on my ears. I saw how men died. I saw how they bore pain. I saw what hope looked like, fear and relief: I saw the dark lines that despair drew on a face. I saw courage and steadfastness. I saw faith shine in the eyes of those who trusted in what I could only think was an illusion; and I saw the gallantry that made a man greet the prognosis of death with an ironic joke because he was too proud to let those about him see the terror of his soul . . . All this was a valuable experience to me. I do not know a better training for a writer than to spend some years in the medical profession.

When we consider the richness and closeness of a doctor's experience of the behaviour and temperament of his fellow-men, we realize at once that he has at hand the materials for the creation of works of a literary nature. Sometimes he denies himself and does not find the time to give the outlet of expression to his creative urge. Sometimes he gives up the practice of his profession and devotes himself to literature. Most doctors have made their contributions a side-line or hobby, sometimes being inspired by the Muses and at other times being provoked by the desire to herald a new doctrine, join in a controversy, follow a fashion or cut a figure in literary circles. They have usually acted in the spirit of Charles Lamb's dictum: "Literature is a very bad crutch, but a very good walking-stick."

From the earliest times men with a medical training have been leaders of thought, and indeed many of them have formed cults of profound influence on social life and literature. In many cases none but the "high-brows" care to read their original contributions nowadays. New vistas of approach to the solution of human problems have been opened up at times, and thought along the new lines has inevitably been incorporated in the writings of contemporary and subsequent authors.

HIPPOCRATES (456-365 B.C.), seventeenth in direct descent from the god Asclepius through his daughter Hygeia, introduced scientific methods of observation and treatment. The medically trained writers ever since have adopted the scientific outlook, which has to a large extent ousted superstition and humbuggery. The empiric but systematic ideas of GALEN, who was born in A.D. 131, about the bodily functions in health and disease were imposed dictatorially on a credulous world. He introduced the preparation of medicines by physical methods and is responsible for prescriptions and the bottles of medicine from pharmacies which are still so much sought after. Throughout the

[1] Read at a meeting of the Melbourne Athenaeum on October 2, 1941.

Dark Ages, which came after the fall of the Roman Empire, and the Middle Ages, for some fourteen centuries in all, the writings and teachings of Galen held sway. It was unorthodox and even heretical to suggest additions or alterations. The one to break the spell was PARACELSUS (1493–1541), (well known to students of Robert Browning), who turned men's thoughts to alchemy or chemistry. He dared openly to deride the customary ideas and with ostentation demonstrated the value of new metallic drugs. He led the search for the philosopher's stone, which was to provide easy money, better health and longer life. His solid contribution was the use of opium in medicine. The revival of learning followed and was greatly influenced by the writings and doings of the alchemists. AVICENNA the Arabian (980–1037), VESALIUS the anatomist (1514–1564), COPERNICUS the geographer (1473–1543), GILBERT (1540–1603), the discoverer of the earth's magnetic qualities and of the idea of electricity, and the great GALILEO himself (1564–1642) all took medical degrees.

In 1628 WILLIAM HARVEY (1578–1657) first presented to the world a sound account of the circulation of blood in the blood vessels and the part played by the heart. (*Exercitationes de motu cordis et sanguinis.*) That advance in knowledge has affected all literature entailing the shedding of blood or the displaying of violent emotions and is not limited to its technical interest.

In less remote times medical men have sponsored novel notions which have aroused great general interest. Some of these themes have not survived. Others have been transmuted in Time's crucible, and after their passage through fire and other drastic processes, a precious, priceless fraction of truth has been recovered. Two examples may interest you. In 1766, in all seriousness, DR. F. A. MESMER (1734–1815) published a thesis, *De planetarum influxu*, to show that emanations from the heavenly bodies affected the human nervous system and that that effect could be harnessed to use in medical treatment. Mesmer's theory of "animal magnetism" was soon discredited, but was revived in 1841 by DR. BRAID, of Manchester. "Mesmerism" or hypnotism has found a place in literature. In medical circles it has developed into "psychoanalysis", but has not lost all the "moonshine" yet. The subject of phrenology or "head-reading" is another example of a medical notion which became a popular craze. In 1796 DR. GALL (1758–1828) commenced to write and to lecture on phrenology. A few years later, DR. SPURZEIM joined him. They claimed that by careful study of the bumps on the head of a person (in comparison with standard plaster casts and diagrams and tables) they had a scientific method of estimating character and intelligence. They failed to convince the French Institute or the British Association, but they failed gloriously; they thrived as martyrs and gained wide publicity for their ideas and methods. Certain doctors and scientists supported them, and phrenological societies sprang up all over the world. The doctrine is dying hard, but is not dead yet. The existence of a bump of locality (Spurzeim's number 27) still finds a place in literature and in conversation.

In the space at my disposal I shall not be able to make any further references outside English literature, and shall try to confine your attention to important works of medical men who have contributed richly to that literature.

Henry VIII, who was well educated himself, appreciated the importance of the cultivation of learning. The approved manner of expression was usually in the Latin language, and the style was involved and heavy. It is of passing interest to recall that at that time doctors or physicians were notabilities, though barbers and surgeons were small fry. The barbers were allowed to dress wounds and swellings and to perform minor operations. The surgeons knew some anatomy and performed a limited repertoire of major operations. In 1540 Henry united the barbers in a corporate body called "The Masters or Governors of the Mystery and Commonalty of Barbers and Surgeons of London". They were not separated for two hundred years (1745).

The first Latin grammar of any note published in English appeared in 1497. It had the interesting title *Lac Puerorum, or Mylke for Chyldren.* Soon afterwards an elementary Latin grammar in English was prepared by THOMAS LINACRE (1460?–1524), a noted physician and scholar, who was the first president of the Royal College of Physicians of England. Little Prince Edward and other children of the times were provided with schoolbooks in English. In 1538 SIR THOMAS ELYOT (1490?–1546), physician, lawyer, ambassador and friend of children, prepared the first Latin-English dictionary. He believed that infants should have nurses capable of teaching them Latin! He wrote against the savage ill-treatment to which children were subjected in the name of education; knowledge was considered to be more likely to be retained if it was well hammered in. Elyot considered the youngsters should not be "forced by violence to learn, but sweetly allured thereto with praises and such pretty gifts as children delight in". It has taken a long time to learn to spare the rod, chiefly because of King Solomon's advice to the contrary:

> He who spareth his rod hateth his son; but he that loveth him chasteneth him betimes. (Proverbs 13:24.)

ANDREW BORDE (1500–1549), the physician to Henry VIII, perpetrated a pun by adopting the pseudonym "*Andreas Perforatus*". He was an excellent physician and astronomer, but in his lighter moments was a humorist in verse and prose. John Scogan (Scoggin) had been a favourite buffoon at the court of Edward IV. Andrew Borde published *Scoggin's Jests: the First and Best Parts: full of witty Mirth and pleasant Shifts, made by him in France and other places: being a Preservative against Melancholy.* Borde was also the author of *The Merry Tales of the Mad Men of Gotham.* It appears that Gotham, a town in Nottinghamshire, had some ridiculous law tenures, probably associated with the building in of the forest of Sherwood, the happy hunting-ground of Robin Hood and his merry men. The proverb "as wise as a man of Gotham" was accepted as another way of calling a person a fool. The transference of the gibe to New York arose from some witticisms in Washington Irving's *Salmagundi* (1809).

In Queen Mary's reign, EDWARD WOTTON (1492–1555), physician and naturalist, published an important book on the classification of animals, which was a useful contribution to literature in his day.

In 1586 TIMOTHY BRIGHT (1551–1615), "physician and divine", belied his name, but not his nature, by publishing a treatise, *On Melancholy.* It may have come into the hands of the great Robert Burton (1577–1640), who in 1621, after years of toil, produced the famous "Anatomy of Melancholy". Dr. Bright was the original inventor of writing "in character", which was the direct forerunner of modern stenography. He received a patent from Queen Elizabeth, dated July 26, 1588, in which the invention is recorded and he is granted sole rights for fifteen years. At the expiration of that patent the improved system of Willis was published. Shorthand writing, of course, was known in classical times; but our present information about that subject has been acquired since the time of Bright and Willis.

THOMAS LODGE (1558?–1625), the father of the English drama, after taking an arts course, lived recklessly for many years in wild travelling with much roystering. He graduated in medicine at Avignon in 1600, and the degree of M.D. is recorded at Oxford (1602). He practised medicine in various parts of London in the latter part of his life. The metre and arrangement of *Venus and Adonis* show the author's study of Lodge's *Glaucus and Sylla.* The plot and many of the characters of *As You Like It* are obviously modelled on Lodge's *Rosalynde.* The accounts of his adventures and conduct in early manhood are pretty scandalous; but it was those very experiences which, added to native genius, made it possible for Lodge to create the works with which he is credited. There is no doubt that they had the effect of stimulating the production of the wonderful plethora of dramatic plays of the times of Elizabeth and James I, of which lovers of English literature are so proud.

THOMAS CAMPION (1576?–1620) must have been a delightful man. He is said to have been born "about the middle of the reign of Elizabeth", and after becoming a lawyer of Gray's Inn, to have obtained the degree of doctor of medicine at London, where he practised medicine thereafter. He was also a noted musician and poet. In 1604 he published *Observations in the Art of English Poesie*, in which he deprecated "childish" rhyming. He wrote many songs, most of which he set to music of his own composition. He produced four masques which were performed on notable occasions. The special feature of his masques was the fine quality of the music furnished for them, and it is reasonable to date back to them our English operas and operettas. One of the best known of his songs is the original "Cherry Ripe". He was the contemporary of Sir Philip Sidney and Ben Jonson, and the influence of his art can be followed in the works of Fletcher, Carew and especially Herrick.

There was a premium on orthodoxy while the Stewarts were expatiating on the Divine Right of Kings. The sad story of JOHN BASTWICK, M.D. (1593–1648), will serve to illustrate that fact. When the worthy doctor dared to attack episcopacy, he was summoned before the High Commission. He was fined £1,000, prohibited from practising his profession and imprisoned until he should recant. After lying in Gatehouse prison for two years he wrote an "apology", in which he failed to show sufficient contrition and sincerity. He was fined £5,000 that time, lost his ears in the pillory, and was condemned to "perpetual incarceration in a remote part of the kingdom". In 1640, by order of the House of Commons, he was released, and out of the estates of his former judges £5,000 was returned to him! It is probable that John Milton had knowledge of Dr. Bastwick's unfortunate experiences. Those and similar ones must have prompted him to write *Areopagitica* (1644). In it he appealed to the leaders of England to stand up for the privileges of freedom of speech and the written word.

In 1643, one of the most beautiful prose poems in the language appeared. It was the *Religio Medici* of SIR THOMAS BROWNE (1605–1682), a physician. He expressed his faith in noble and impressive sentences without attempting to philosophize. He wrote of his religious experiences with conviction and certainty. His theology is indecisive, falling between catholicism and protestantism, though he declares vehemently in favour of the Church in England. The work was widely circulated amongst scholars, and it has been the subject of controversy and interest ever since.

NATHANIEL HODGES (1630–1684) is the physician who is remembered as the historian of the great plague in the year before the fire of London. Bubonic plague, the "black death", was first encountered in England in the early years of the reign of Elizabeth (1563), and returned in 1603, 1625 and 1665. Its ravages affected the social life of the times and its history is of great literary interest.

DR. MARTIN LISTER (1638?–1712) was an expert on sea and land shells, and made important contributions between 1685 and 1692.

Two medical knights, SIR SAMUEL GARTH (1660–1719) and SIR RICHARD BLACKMORE (1650–1729) were two of the foundation members of the Kit-Kat Club. Christopher Cat, a pastrycook, kept the tavern in King Street, London, in which the members gathered together. Garth wrote some lively verses for the toasting glasses of the club. Blackmore published a poem which he called *The Kit-Kats*. Garth was one of London's leading physicians and was associated prominently with the Royal College of Physicians. Through his efforts the college passed an edict (1687) by which medical men were required to give gratuitous advice to the poor. That practice is, of course, carried on to the present day. By that act alone Garth is entitled to the compliment paid him by Pope, who called him "the best of Christians without knowing it". In defence of the edict Garth produced a burlesque poem known as *The Dispensary* (1696). It was greatly admired by his contemporaries and may still be read with interest.

Blackmore's serious claims to literary fame are the useful philosophical poem *Creation* (see *The Spectator*, Number 339) and *The Lay Monastery, A Sequel to The Spectator*, a periodical running into forty numbers, of which he wrote two-thirds (and John Hughes the other third). He was a very colourful person, as is indicated by Moore's epigram:

> 'Twas in his carriage, the sublime
> Sir Richard Blackmore used to rhyme
> And (if the wits don't do him harm)
> 'Twixt death and epics passed his time
> Scribbling and killing all day long!

SIR HANS SLOANE (1660–1753) was a remarkable doctor. Born in the year of the Restoration, he became a Fellow of the Royal Society in the year of the death of Charles II (1685). Two years later he went to Jamaica as physician to the governor. He returned to London in five years and soon built up a fashionable medical practice. He published a commentary on his important collection of plants and an account of his observations in Madeira and Jamaica and other places he had visited. Sloane was court physician to Queen Anne (which was no sinecure) and to George I and also to George II. He was President of the Royal Society in 1727. During his long life he collected furniture, paintings and many other beautiful and valuable articles. When, in 1753, he died at last, the nation was his legatee. Sir Robert Bruce Cotton lived from 1571 to 1631. In 1700 his great collection of priceless manuscripts and coins passed by statute into the possession of the State. It was moved from place to place and was seriously damaged by fire in 1731. In 1754 the Sloane collection and the Cottonian collection were added together in the founding of the British Museum. The British Museum rather than Sloane Square is the memorial to Sir Hans Sloane.

DR. JOHN RADCLIFFE (1650–1714), another leading London physician in the time of Queen Anne, led a colourful life. He had been Princess Anne's principal medical attendant for many years before she came to the throne (from 1686), and he saw her through the smallpox (1694). At the time of her fatal illness he refused to see her. Great public indignation was aroused, but apparently he was aware of his own impending demise; three months later he died in an apoplectic fit. He was a *bon vivcur* and a "wit" of note, though his freedom of speech to William III and Anne got him into trouble. He had a seat in the House of Commons. Matthew Prior, a contemporary, has left us an interesting epigram entitled "The Remedy Worse than the Disease":

> I sent for Radcliffe; was so ill
> That other doctors gave me over:
> He felt my pulse, prescribed His pill
> And I was likely to recover.
> But when the wit began to wheeze
> And wine had warmed the politician
> Cur'd yesterday of my disease
> I died that night of my physician!

Saint Bartholomew's Hospital was enlarged from funds bequeathed by Dr. Radcliffe. He also left £40,000 to Oxford University. It was spent on the Radcliffe Library, the Infirmary and the Observatory.

The stalwart of Queen Anne's reign in literary circles, as in medical ones, was, however, the great JOHN ARBUTHNOT (1675–1735). Thackeray has described him as "one of the wisest, wittiest, most accomplished, gentlest of mankind". Samuel Johnson judged him to be "the first man among the eminent writers".' That places him among the Augustans, for the writers included Pope, Swift and Gay.

As the creator of John Bull (*Law in a Bottomless Pit, or the History of John Bull*) he has achieved imperishable fame. "Gulliver's Travels", by "Lemuel Gulliver, first a surgeon and then a captain of several ships", owes him more than we can now prove. From the literary point of view his acknowledged works, as is the fate of comedy, have suffered by the passage of time. They are full of local and topical humour. He was the bitter enemy of affectation and false taste, and was the life and soul of the Scriblerus Club, founded in 1714. The group carried out literary undertakings collectively, which makes it hard for us to know just whose influence was upper-

most. Other prominent members were Congreve, Atterbury (Bishop of Rochester), Swift and Pope. Later Scriblerians included Gray (of the "Elegy Written in a Country Churchyard"), and probably Henry Carey, the author of "God Save the King" and "Sally in Our Alley".

Surely it must have been more than a coincidence that the literary clubs always included a doctor in the company. DR. JOHN ARMSTRONG (1709–1779) was the representative in the coterie of James Thomson, author of "The Seasons" (1726–1730) and of "The Castle of Indolence" (1748). He is said to have been "one of the best blank verse writers of the age". He "reared poetical flowers on the dry and difficult ground of philosophy" and science! From the description of him as one "who quite detested talk" in "The Castle of Indolence" (of which he wrote the four concluding stanzas of Canto 1), we may guess that he was a dull dog: The poet says:

With him was sometimes join'd in silent walk
(Profoundly silent, for they never spoke)
One shyer still, who quite detested talk:
Oft, stung by spleen, at once away he broke
To groves of pine, and broad o'ershadowing oak:
Then, inly thrilled, he wander'd all alone
And on himself his pensive fury wroke,
Ne ever utter'd word, save when first shone
The glitt'ring star of eve—"Thank heaven! the day is done!"

Others of the company were Thomson himself—"more fat than bard beseems"; George, Lord Lyttleton, "of sense refined"; Mr. Quin, "the Esopus of his age" (the last actor of the old school who yielded the palm to Garrick, the founder of the new one, in 1746); and the Reverend Mr. Murdoch (Thomson's biographer), "a little, round, fat, oily man of God". Dr. Armstrong also wrote a satire on the quackery and general incompetence of the doctors of the period, several humourless burlesques and many dull and rather stupid poems and pamphlets.

During the reign of George II (1727–1760) many other doctors of medicine made their marks in literature.

WILLIAM STUKELEY (1687–1765), the antiquarian, wrote copiously on the Britain of the Druids and Romans.

DR. JOHN CAMPBELL (1708–1775) published an extraordinary book in 1743 (*Hermippus Redivivus*). It was really a satire on the notions of the alchemists. A general solvent was sought which would change base metals into gold and be a universal medicine to remove diseases, renew youth and prolong life. Campbell, in all apparent seriousness and good faith, advanced the idea that, by inhaling the breath of young women, life could be prolonged indefinitely. He supported the thesis with much evidence, and even learned people took the book seriously. For example, "a physician, who himself had composed a treatise on health, was so influenced by it that he actually took lodgings at a female boarding-school, that he might never be without a constant supply of the breath of young ladies". Campbell later admitted that he had tried to outdo the efforts in leg-pulling of Bayle, the Frenchman, who had published a "best-seller" with a similar title.

The story of DR. JOHN SHEBBEARE (1709–1788) is rather a severe reflection on the state of England in the reign of George II. Early in the Seven Years' War, Shebbeare, in his letters to the English nation, exposed the incompetence of the crafty Newcastle and England's unpreparedness. The inadequate English forces supporting Frederick of Prussia for Hanover's sake were defeated by the French on the Continent; and Montcalm was causing trouble in America. England was in the depths of despondency; even Chesterfield is said to have exclaimed: "We are no longer a nation." And Pitt had not come to the rescue because of the royal veto. After the letters to the people of England were published Dr. Shebbeare was charged with treason. He was found guilty. He had to pay a fine, stand in the pillory and suffer imprisonment.

BENJAMIN HOADLEY (1706–1757), the dramatist, was a medical man. He was the son of the well-known Bishop of Bangor, who started the "Bangor Controversy" by denying that the Church had the right to assert authority over the conscience of the individual. One of Hoadley's best-remembered plays is *The Suspicious Husband*. In it David Garrick played the part of Ranger, a high-spirited individual of the Sir Harry Wildair type, made popular by Farquhar in "The Constant Couple" and other plays.

SIR JOHN HILL (1716–1775) is another medical dramatist of that period who is worthy of passing notice. With Mrs. Hannah Glasse he compiled *Mrs. Glasse's Cookery Book*, which was quite a success. He and Kit Smart engaged in wordy warfare, and "The Hilliad" was a satire on Hill provoked by an attack on Smart. Garrick also turned his wit on poor Hill in the lines:

For physic and farces his equal there scarce is,
His farces are physic, his physic a farce is!

DR. TOBIAS SMOLLETT (1721–1771) was not only the historian who continued Hume's "History of England" from the accession of William and Mary to the death of George II; with Richardson ("Pamela", 1740), Fielding ("Tom Jones", 1749) and Horace Walpole ("The Castle of Otranto", 1765) he is entitled to share the honour of introducing the novel into English literature. *Roderick Random* (1748), *Ferdinand Fathom* (1753), *Peregrine Pickle* (1751) and *Humphrey Clinker* (1771) are novels which may still be read with interest and pleasure. They are psychological studies of representative members of society delineated with pungent humour and artistic discrimination. He was particularly happy in his accounts of the ways of sailor-men like Tom Bowling. He also tried his hand at poetry, tragedy and comedy, but had considerable trouble over the publication of his tragedy *The Regicide* (1749). In the end it was published "by subscription". Smollett's main theme was to show us that happiness is attainable by each of us. Our feelings are not dependent on our station in life. If we go about it in the right way, we can each find happiness and enjoy life.

OLIVER GOLDSMITH (1728–1774) had a chequered career as a medical student and was not a success as a doctor, but he achieved literary fame. He made use of his social adventures as illustrations. His genius and simple truthfulness and realism made an irresistible appeal to his contemporaries and to succeeding generations. Everyone knows of "Goldy's" special aptitude for all the varieties of literary production—poetry of all kinds, books, pamphlets, plays and letters. Whether in the role of the inspired idiot or of the delightful citizen of the world, he can raise a laugh and be entertaining and altogether lovable. The collection of artists, lawyers, scholars and politicians who figure in Goldsmith's *Retaliation* must have had fine times together at St. James's Coffee House and other places when they met. Goldsmith's memory still suffers from the recollection of Garrick's epitaph:

Here lies poet Goldsmith, for shortness called Noll,
Who wrote like an angel, but talked like poor Poll!

But his simplicity, humour and good nature are apparent in the lines

Our Garrick's a salad, for in him we see
Oil, vinegar sugar and saltness agree.

DR. NATHANIEL COTTON (1721–1788) was a contemporary of Goldsmith, but is of literary interest because of his association with the poet Cowper. Cotton was not only a minor poet, but also he kept the "private madhouse" at St. Albans, in which Cowper recovered his sanity after attempting suicide in a fit of depression. Cowper has testified to Cotton's "well-known humanity and sweetness of temper".

DR. ERASMUS DARWIN (1731–1802), the grandfather of the famous Charles Darwin, conducted a successful medical practice at Lichfield. He was also an enthusiastic botanist and became known as "the poet of Flora" because of the ingenious poems in which he combined his knowledge of flowers with elaborate classical allusions. SIR JOSEPH HOOKER (1817–1911), president of the Royal Society from 1873 to 1878, was assistant surgeon with Ross in the Antarctic expedition of 1839 to 1843. Another associate of Charles Darwin, THOMAS HUXLEY (1825–1895), who graduated in medicine in 1845, was a surgeon at Haslar Naval Hospital and served in H.M.S. *Rattlesnake*.

Lovers of Robert Burns should be reminded of their indebtedness to members of the medical profession. DR. JAMES CURRIE (1756–1805) in 1800 edited the works of Burns, with a life and criticism, published for the benefit of the poet's widow and children. WILLIAM BUCHAN, M.D. (1729–1805), published in 1769 a popular book called *Domestic Medicine*, which was translated into a number of European languages. It sold so well that it produced an annual income of £700 for forty years! In Burns's satire, "Death and Doctor Hornbook", Death is represented as complaining about how much medical nonsense the quack schoolmaster had culled from Buchan.

> Ye ken Jock Hornbook i' the clashan
> De'il mak' his king's-hood in a spleuchan!
> He's grown sae weel acquaint wi' Buchan
> An' ither chaps,
> The weans haud out their fingers laughin'
> And pouk my hips.

DR. JOHN MOORE (1729–1802) edited Burns's autobiography and their correspondence, and also supplied the biography when Smollett's works were collected. (He had served under Gordon of Glasgow, to whom Smollett was apprenticed.) DR. ROBERT ANDERSON (1751–1830) was the biographer of John Moore and collected his works. He was known as "good old Anderson" and was the editor and biographer of many of the British poets of the eighteenth century.

In DR. JAMES HUTTON (1726–1797) we have one who gave up medicine for farming and geology. From a study of rocks and minerals he propounded *A Theory of Rain* (1784) and *A Theory of the Earth* (1785), which led immediately to the formulation of our present ideas concerning the structure of the crust of the earth's surface.

DR. JOHN WOLCOT (1738–1819), under the *nom-de-plume* of "Peter Pindar", satirized in verse George III and the public men of his day. One of the poems referred to the finding of an "obnoxious insect" on the green peas on the royal plate, and how the incident was responsible for the decree ordering that the heads of the footmen must be kept shaved. Wolcot received a pension of £300 *per annum* as the price of his silence!

At the close of the eighteenth century MUNGO PARK (1771–1805) published the important account of his discovery of the river Niger. He then married and settled as a surgeon at Peebles for six years. Then Africa called again, and he went, never to return. The journal of his wanderings, heroism and experiences appeared later and created great interest. And we must not forget DAVID LIVINGSTONE (1818–1873), of a later day.

DR. WILLIAM KITCHENER (1775–1827), who was "celebrated for writing good books and giving good dinners", was a *bon viveur* of note in the Regency period and during the reign of George IV. He also wrote a number of books on cooking and dining, travelling in comfort, prolonging life and making wills.

One of the most illustrious medical names in English literature is that of JOHN KEATS (1796–1821). From 1810 to 1815 he was apprenticed to Hammond, a surgeon at Edmonton (six miles north of London), and he "walked the hospitals" in London. He passed the qualifying examination at the Apothecaries' Hall "with considerable credit". For a short time only he practised surgery, and though he was successful he decided to devote himself to literature. His brilliant command of language and poetic sensuousness and imagery immediately commanded attention. Charles Cowden Clarke, the son of his old schoolmaster at Enfield, was his closest and lifelong friend; but, young as he was, Keats gathered around him many notable people. Among them were Charles Wentworth Dilke (owner and editor of *The Athenæum* in 1830), Haydon the painter, Hazlitt the essayist, and Ollier the bookseller. He dedicated *Endymion* to Leigh Hunt. Shelley, who was two years older than Keats, was befriended by Leigh Hunt; but Shelley and Keats were not kindred spirits. Wordsworth and Coleridge were merely his acquaintances.

"The Bridgewater Treatises" (1833) are of great medico-literary interest. The eighth Earl of Bridgewater (the Right Honourable and Reverend Francis Henry Egerton, 1736–1829) died in 1829, leaving £8,000 to be distributed by the president of the Royal Society "to the person or persons appointed by the said President to prepare a work on the Power, Wisdom and Goodness of God as manifested in the Creation, illustrating such work by all reasonable arguments". There were eight recipients of £1,000 each under this bequest. The men of medicine and the church shared the prizes equally. SIR CHARLES BELL (1778–1842), the surgeon, wrote a classic treatise on *The Hand: Its Mechanism and Vital Endowments, as Evincing Design*. DR. JOHN KIDD (1775–1851) chose as his subject *The Adaptation of External Nature to the Physical Condition of Men*. DR. PETER MARK ROGET (1779–1869) wrote on *Animal and Vegetable Physiology, Considered with Reference to Natural Theology*. (Later he produced the famous and valuable *Thesaurus of English Words and Phrases*.) The other medical prize-winner was WILLIAM PROUT (1785–1850). His contribution was entitled *Chemistry, Meteorology, and the Function of Digestion, Considered with Reference to Natural Theology*. Prout was a chemist who disputed the acceptation of the atom as indivisible. He invented the term "protyle" in the belief that every atom contained hydrogen. His ideas have aroused fresh interest during the modern attacks of the physicists on the problem of the structure and contents of the atom. Doctors honour him as the one who first found that hydrochloric acid was present in the human stomach.

In the early days of Queen Victoria's reign "Fraser's Magazine" was a power in the land. The Fraserian group included Southey, Carlyle, Coleridge, Harrison Ainsworth, Lockhart, Hogg, Cunningham, Galt and many others; but as usual there was a literary physician among them. He was DAVID MACBETH MOIR (1798–1851), who signed his works with the large capital Greek letter Δ. He practised medicine "in his native town of Musselburgh and was beloved by all who knew him". We are indebted to him for the interesting sketches of the poetical literature of the first half of the nineteenth century. He also edited Mrs. Hemans's works, wrote a memoir of Galt, and contributed to the magazines much fanciful and amusing verse and prose.

In the middle of last century DR. RICHARD ROBERT MADDEN (1798–1886) published the memoirs of the Countess of Blessington. Her romance with the equally fashionable author Count D'Orsay was a highlight of literary and society life. Madden was a poet of some note, but his reputation barely survived him.

DR. JOHN BROWN (1810–1882) is still well remembered, however, if only for *Rab and his Friends*. Rab was a dog whose faithful affection has been immortalized by Brown, who skilfully wove into the tale a harrowing account of a major operation in pre-anæsthetic days. His two series of essays written in leisure hours are of lasting importance because of the elegance and lucidity of the diction.

In modern times one of the greatest of bonds between the people of the British Empire and their American cousins is the literary bond. They speak the same language—or nearly the same language—listen to the same plays, read the same books and hear and see the same moving pictures. Australians are now used to enjoying a book, a play or a "picture" without stopping to think of the precise country of origin. The literary subject taught in American schools is called "English", as it is in English or in Australian schools. And their literature is English literature enriched with American experiences.

It is over eighty years since DR. OLIVER WENDELL HOLMES (1809–1894) became associated with his fellow professor in *The Atlantic Monthly* (1857). Holmes was professor of anatomy and physiology, and James Russell Lowell was professor of modern languages at Harvard University. For five years Holmes contributed the sparkling essays of "The Breakfast Table" series. As a poet, philosopher,

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humorist and essayist, it is unlikely that he will be forgotten. With regard to his reputation, it is fitting to recall that he himself said:

> The noblest service comes from nameless hands
> And the best servant does his work unseen.

After giving examples of the unknown origin of the harnessing of fire, metals, vehicles and animals in the service of men, he added:

> All these have left their work and not their names,
> Why should I murmur at a fate like theirs?

He has enriched our language with many catch-phrases, such as "books are the water of crystallization of the scholar"; "we live too long and even so are not content to die"; "money was a great thing when them that had it made a good use of it".

JOSIAH GILBERT HOLLAND (1819–1881), doctor of medicine, was also born in Massachusetts, but ten years after Holmes. He was before the public as "Timothy Titcomb" for twenty years from 1855. He contributed to magazines in New York his *Letters to the Young*, *Plain Tales on Familiar Subjects* and *Letters to the Joneses*. He also wrote a number of novels and poems, and at least one serious history. In 1870, with Charles Scribner, he founded *Scribner's Monthly Magazine*, later known as *The Century*, which lasted until 1881 and was revived by Charles Scribner's Sons in 1887 as *Scribner's Magazine*. It has a wide circulation on each side of the Atlantic, and in it have appeared contributions by Thackeray, Stevenson, Kipling and many other authors who have become well known. In the earliest numbers was published a series of Thackeray's letters (he died in 1863), accompanied by original drawings by the novelist. Stevenson's "Ticonderoga" appeared in the first Christmas number of the new *Scribner's Magazine*. "McAndrew's Hymn" (1894), "They" (1904) and three other Kipling items first appeared in *Scribner's Magazine*.

During the past century universal compulsory education, great scientific discoveries and improved ease and rapidity of travel and intercommunication have led to a wide expansion in the demand for books and in the supply of them. At all times there have been medical authors whose works have received wide attention, and some have become famous. As we approach our own time, selection of the worthy writers becomes more and more invidious and difficult. How many of them will be remembered even fifty years after death? How many have planted their feet firmly even on the lower slopes of Parnassus?

In ROBERT BRIDGES (1844–1930), poet and playwright, we have the only medical poet laureate. He retired from the practice of medicine in 1882 and devoted himself to writing. His study of Greek prosody and application of it in English verse make most of his work unacceptable to the general reader; but it has been recorded that he was "a cultured and scholarly poet of indisputable and unique gifts". As Mr. Toots would say: "It's of no consequence"; we shall leave it at that.

On the other hand, SIR ARTHUR CONAN DOYLE (1859–1930) has entertained and delighted several generations of readers and theatre-goers with *Micah Clarke*, *The White Company*, Sherlock Holmes, *Brigadier Gerard*, *Rodney Stone* and *The Hound of the Baskervilles*. His serious historical accounts of the Boer War and of the war of 1914-1918, and his descriptions of his occult experiences and convictions are of great interest. There is no doubt that he has made his mark, though probably time will erase it. "Sherlock Holmes" was inspired by "The Mystery of Mari Roget" and "The Murders in the Rue Morgue"; but Conan Doyle's outstanding successes started a spate of detective fiction which is still pursuing a rapid flow.

DR. AUSTIN FREEMAN'S detective stories are good samples of the successors of Sherlock Holmes. Dr. Thorndyke, who appears in *The Singing Bone*, *The Shadow of the Wolf* and other stories, has become quite a well-known character. Freeman has published about twenty volumes and must have quite a large public following. The object of many of his plots is not so much to conceal how the foul deed was done or who did it, as to portray how ingeniously the culprit was discovered by the medical jurisprudence expert.

My friends the booksellers and librarians have assured me that all popular medical subjects in books and plays are "quite the rage" and are enjoying an unprecedented vogue. One reason is that the public taste has been stimulated by medical propagandists on both sides of the Atlantic, who are anxious to serve up daintily and attractively information of great importance for the individual and for communities. Some of the titles of books that come under the heading of medical propaganda are: *Medicine Marches On* (E. PODOLSKY, New York); *The Story of Microbes*: *Your Germs and Mine* (BERL BEN MËYR, New York); *Riders of the Plagues* (JAMES A. TOBEY, New York); *As Others See You*: *The Story of Plastic Surgery* (H. J. SCHIRESON); *Surgeons All* (HARVEY GRAHAM); *Men against Death*, *Why Keep 'Em Alive* and *Microbe Hunters* (PAUL DE KRUIF). The influence of Dr. de Kruif is also apparent in Sinclair Lewis's excellent "Martin Arrowsmith".

A slightly different class of book is the biography or autobiography giving an account of the special efforts of individuals, from which the inference is readily made that the writer is appealing for support and public approval. Outstanding examples are *A Doctor's Odyssey* (VICTOR HEISER) and *A Woman Surgeon* (ROSALIE SLAUGHTER MORTON). Perhaps *Grenfell of Labrador* and Havelock Ellis's autobiography may be added.

Medical biographies of great literary interest are *Osler* (HARVEY CUSHING); *Sir James Mackenzie*: *The Beloved Physician* (R. M. WILSON); *Lord Lister* (RICKMAN GODLEE); *Sir Clifford Allbutt* (H. D. ROLLESTON); and *Surgeon Extraordinary*: *The Story of J. B. Murphy* (L. DAVIS).

"The Fortunes of Richard Mahony" is the work of a doctor's daughter, who was born in Melbourne.

Many doctors have written accounts of the highlights of their travels and professional experiences. SIR FREDERICK TREVES'S *The Other Side the Lantern* and SIR A. CONAN DOYLE'S *Round the Red Lamp* are still well remembered. SCHOFIELD'S *Behind the Brass Plate* is a wonderful medley of good and bad reading. *Surgeon's Log*, by J. J. ABRAHAMS is deservedly popular. A good American account is *Fifty Years of a Country Doctor* (W. N. MACARTNEY). Those who enjoyed HERTZLER'S *Horse and Buggy Doctor* will like *The Doctor and his Patients*. A new one is *In Search of Complications*, by the Russian-born surgeon EUGENE DE SAVITSCH.

Short stories with a decided medical flavour are very readable. GEORGE SAVA has written six volumes of them, but has failed to eliminate the least interesting subject (himself), which turns up almost to a nauseating extent. *Consulting Room*, by P. LOOMIS, is a delightful volume and contains one story at least fit to be entered in a competition for the world's best.

AXEL MUNTHE'S *The Story of San Michele* is a powerful but fantastic book, which can be understood only in the light of the information that Munthe knew he was about to go blind. It is largely autobiographical, but he has shown real literary artistry by trying to conceal that fact and by focusing the limelight and colour on his extraordinary collection of subjects.

Our own MACLAURIN in *Post Mortem* and *Mere Mortals* has given us some especially fine historical vignettes seen through particularly astute medical eyes. Another Australian, HERBERT MORAN, has written an unpleasant, provocative book, *Viewless Winds*, which has raised storms of controversy. ZINSSER'S *Rats, Lice and History* is an important serious contribution to indicate the value of personal hygiene in warfare. His recent biography of *F.S.* has set people thinking. ALEXIS CARREL'S *Man the Unknown* is a masterly philosophical and educational work, which will well repay close study, but which will prove difficult for those without any technical knowledge of the subject. DR. WILLIAM THOMSON, of Melbourne, sixty years ago, was a doughty protagonist of Bacon in the Bacon-Shakespeare controversy.

SOMERSET MAUGHAM has his admirers and his detractors; but none can dispute his eminence in a highly artistic field. His output is large and varied, and includes many novels, books of short stories and some twenty plays. A lesser dramatist is DR. HAROLD DEARDEN, whose plays *Interference*, *Two White Arms* and *The Flaming Sword* have attracted favourable comment. He has also written at least a dozen books and a dramatic autobiography called *Wind of Circumstance*. JAMES BRIDIE (DR. O. MAVOR) is also well known as a dramatist.

The novelists have purposely been left till last because of the extraordinary richness of their numbers and of their combined works, which would alone make an excellent lending library for modern readers. Among their ranks, in addition to MAUGHAM, DEARDEN and BRIDIE, we must include SIR HUGH WALPOLE, WARWICK DEEPING, BRETT YOUNG, A. J. CRONIN, HENRY DE VERE STACPOOLE and perhaps LLOYD DOUGLAS and others. Between them they have laid out for all to read how men become doctors, as in *Sorel and Son* and *Dr. Bradley Remembers*, and how they live, as in *The Citadel*, which is not so good a book as *Dr. Bradley Remembers*; these may be quoted as extreme contrasts. Cronin's first book, *Hatter's Castle*, as is often the way with first books, is by far his best, though that caricature of doctors, *The Citadel*, which is unworthy of him, has attracted much attention and has even appeared upon the silver screen.

Someone is sure to remind me that I have left out HALLIDAY SUTHERLAND, and that it is surprising that I have not mentioned SIR VICTOR HORSLEY, SIR RONALD ROSS, DR. WEIR MITCHELL and many another; but I cannot hope to cover the whole ground or I should be wearisome beyond endurance. I must already have sorely tried your patience; but I trust that I have succeeded in making the point that all branches of literature owe a great debt to the medical profession.

SOME OBSERVATIONS ON THE EFFECTS OF SELECTIVE IRRADIATION OF THE STOMACH IN CASES OF CHRONIC NON-OBSTRUCTIVE DUODENAL ULCER WITH HYPERCHLORHYDRIA.[1]

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CHRONIC duodenal ulcer in our locality is a common condition; it is the cause of severe morbidity, affecting usually an active and intelligent section of the community during their most productive years. It is not classed as a so-called precancerous state, and therefore one reason for urgency in suggesting radical steps in treatment can be neglected.

The ætiology of this condition is complicated and imperfectly understood. That a diathesis is necessary seems to be fairly generally true. We can all recognize the candidate for a duodenal ulcer. He presents also characteristic general findings when examined after a barium meal. Pronounced hypermotility is present throughout the alimentary canal, while peristalsis in the stomach particularly has periods of violent exaggeration, and persistent spasm of the pylorus is a common occurrence. There is no doubt that "relapses" during the disease are often precipitated by mental strain.

The fundamental problem of discovering what actually determines the onset of the ulcer in patients with this diathesis has not been settled. The possible importance of a preexisting duodenitis analogous to chronic gastritis is still under discussion. It is not even known for certain what mechanism provides the quick relief from discomfort after the swallowing of an alkaline powder.

It is probably unnecessary to justify some dissatisfaction with present methods of treatment. One of the Mayos is alleged to have said: "I never operate for chronic duodenal ulcer until it has been finally and completely cured by medical treatment, at least nine times."

It is probably fair to say that both surgical and medical treatment at present place most emphasis on the reduction of the amount of hydrochloric acid in the gastric contents. Surgical measures seem to have become progressively more heroic as they are directed at this end. Outstanding in its ingenuity and courage must be the method we have heard described here—ligation of the whole arterial supply of the stomach for this purpose, with its unexpected sequel of a degree of pyloric spasm necessitating a gastroenterostomy. This persistence in more radical and dangerous surgical manœuvres is probably a reaction to the inefficiency of medical attempts to maintain continuously at an innocuous level the acid in the gastric contents.

Following this general trend, we have set out to investigate the effects of X rays on the acid-secreting cells in these cases. The rarer subjects of duodenal ulcer with normal or low gastric hydrochloric acid levels have not been accepted for treatment. The ideal would seem to be to stop the acid secretion at its source, instead of attempting to neutralize it as it is poured into the lumen of the stomach. When we first examined this possibility we were encouraged to make the attempt by the availability of a particular type of equipment with special advantages which merit separate discussion. Moreover, we recognized a possible similarity between the behaviour of the radiosensitive salivary glands and that of the oxyntic cells. They both secrete a specialized fluid at a variable rate in response to local and psychic stimuli.

Now the salivary glands can fairly be described as radiosensitive. In a general way every radiotherapist knows that in the treatment of neoplasms about the head and neck, when either numerous or large ports of entry are used, well before a high level of dosage is reached the patient complains of dryness of the mouth and throat. The duration and completeness of this cessation of activity depend, of course, on the dosage level reached. We have no precise figures for the dosage appropriate for a given time effect, but there seems to be a wide margin between that necessary for a short and temporary result, as opposed to a permanent result. We are inclined to believe that the latter would be obtained only by a dosage causing irreversible changes in the cells of surrounding tissues.

We have treated the excessive salivation in a case of *paralysis agitans*. A dose of 500 *r* was delivered on the skin of each side of the face in four days, and this resulted in an almost complete cessation of secretion for at least a month. A parotid fistula has been healed by a local cumulative dose of 400 *r*,[(1)] measured on the skin, causing a complete temporary cessation of secretion from the gland for at least six days.

The fundamental importance of the wide difference of dosage necessary to produce temporary as opposed to permanent changes will be referred to again. Some search was made of the available literature describing previous attempts to treat chronic duodenal ulcer with X rays. It may be said at once that the quality of the work we have been able to study has been disappointing; in point of fact, our attempt was forced to start *ab initio*.

As a summary, it may be said that previous attack on the ulcer has usually been directed at one or several of the following objectives:

1. Direct effect on the ulcer. In this case small doses were chosen analogous to those used for chronic infection elsewhere—for example, paronychia. A small port was used over the duodenum itself. This may be of some value; but it seems to us that the problem is over-simplified if the condition is regarded as similar to an ordinary chronic pyogenic infection.

2. An effect on the vegetative nervous system by irradiation of the cœliac ganglion, centres in the stomach wall and sometimes the paravertebral ganglia in the lower dorsal region. This reasoning is based on grounds we are unable to discover, except possibly the experimental production of ulcers of the stomach and duodenum by stimulation of the hypothalamus. It seems to be popular,

[1] Read at a meeting of the Tasmanian Fellows and Members of the Royal Australasian College of Physicians on March 14, 1941, at Hobart.

mainly in Russia. As far as can be gathered, the dosage used was low.

3. An effect of unknown nature on most of the structures in the upper part of the abdomen—for example, the spleen and suprarenal glands, the liver and pancreas. This may surely be described as machine-gun tactics.

4. An attempt to diminish or stop the secretion of hydrochloric acid. Quite the most detailed account of this method we have found is that of Palmer and Templeton,[29] of the University of Chicago. However, in the 88 cases they studied, duodenal, gastric and jejunal ulcers were included, and in our opinion the technique of the application of the rays is open to some criticism. The quality of radiation used—it was generated at 200 kilovolts pulsating potential—gives a relatively poor depth dose unless a large port is used. At 10 centimetres depth, with a port of 100 square centimetres and a focal skin distance of 50 centimetres, the depth dose is approximately 34%, if a filter of 0·5 millimetre of copper is used. In these cases a large port was used—a square with sides measuring 15 centimetres. This involves the irradiation of the whole stomach and a considerable volume of surrounding structures. Particularly is this true with the relatively long mean wave length employed here. While we cannot present actual figures, it is generally true to say that the amount of side scatter diminishes with diminishing incident wave lengths. This point will be elaborated when we come to discuss our own technique. In this particular paper no depth doses were quoted as either total or cumulative. We estimate that the dosage effective on the stomach was approximately 1,000 *r* at the end of the treatment period in some of Palmer and Templeton's cases. Approximately 400 *r* measured on the skin were given at each sitting. As we would expect, this caused a number of complaints of nausea. Apparently the dosage was varied very considerably throughout the series of cases. However, no reason for this variation is given, and it is impossible to judge at what dosage level Palmer and Templeton concluded that it was desirable to aim. Finally, they state that centring was occasionally checked by screening. Obviously this cannot be done on the treatment couch. Therefore, it is rather unlikely that an exact duplication of all the factors involved could have been obtained. Some depression of gastric secretion was obtained in every patient treated, but the extent and duration of the depression was quite variable.

This somewhat sketchy review of previous work encouraged us to make a fresh attempt, which would be limited in both the choice of material and the objective aimed at. Consideration must first be given to the distribution of the parietal or oxyntic cells. This is illustrated by Figure I, taken from Best and Taylor.[30] It

FIGURE I.
Diagram of the distribution of oxyntic cells in the human stomach (after Best and Taylor).

shows the distribution of the parietal (acid-secreting) cells in the human stomach. In the black area the proportion of parietal cells was maximal and was taken as 100%; in the cross-hatched area on the lesser curvature the percentage of parietal cells was 75%, in the shaded area at the fundus 50% and in the white area 0% to 1%. The production of hydrochloric acid from these cells depends chiefly on their number and efficiency and on the strength and duration of the secretory stimuli.

The problem from the radiotherapeutic point of view may then be stated as follows:

1. The acid-secreting cells are to be uniformly irradiated at a dosage level which will temporarily diminish or prevent their activity.

2. The dosage level reached must be within the normal tolerance of the surrounding structures—for example, the left lobe of the liver, the left suprarenal gland and the pancreas. Here it may be mentioned that we have found little useful information about these tolerance levels.

3. The pyloric antrum must be shielded from direct irradiation, and scattered irradiation must be minimized so that possible effects on the production of the so-called intrinsic factor of Castle will be avoided.

4. Pronounced skin changes and irradiation sickness are to be considered undesirable.

The particular advantages of the equipment available here depend on the relatively high voltage used. With the factors 400 kilovolts pulsating potential, a focal skin distance of 80 centimetres and a filter equivalent to 4·25 millimetres of copper and 1·0 millimetre of aluminium, the radiation has a half-value layer of approximately 4·5 millimetres of copper. This gives a depth dose of 48% with a 10-centimetre diameter circular port at a depth of 10 centimetres measured in a standard wax phantom. In addition to this high depth dose with a relatively small port of entry, the amount of side scatter is less than that produced with X rays of appreciably longer wave length. There is also some evidence that skin changes diminish with decreasing wave length of the incident beam.

FIGURE II.
Factors: 275 kilovolts, 3 milliamperes, par screens. Exposure, 3 seconds.

It follows, then, that we are able to deliver a dose at the depth required here of approximately half the level on the skin of any one port. The penumbra of scattered radiation around the beam is minimized, while skin tolerance is relatively high. Because of the form and position of that part of the stomach which we have chosen to irradiate, circular skin ports, 12·3 centimetres in diameter, are used directly antero-posteriorly and postero-anteriorly. Centring is checked by actual radiographs taken on the treatment couch, the stomach being filled with a barium sulphate suspension. This method is more satisfactory when the patient is supine than when he is in the prone position, in which the contents of the stomach tend to lie more in its distal part. It will be observed that the outline of the port in the radiograph illustrated (Figure II) is fairly sharp. Under the conditions in which

this exposure was made, the coning effect of the circular port is reasonably efficient. On the other hand, measurements made in a wax phantom at three, four and five centimetres from the edge of the beam at a depth of 10 centimetres gave readings of 24%, 20% and 15%, respectively, of the dosage delivered in the centre of the port.

As we were without any guide it was decided to begin with a probable minimum effective dosage. A cumulative dose of 500 *r* on the stomach was selected. The correct rhythm and rate of dosage are quite unknown to us; we therefore used a fractional method. This at once minimizes the possibility of any irradiation sickness and increases the tolerance of the skin. A dose of 150 *r* measured on the skin was delivered each day alternately to the two skin ports. The number of treatments, of course, varies with the thickness of the upper portion of the particular patient's abdomen.

The cumulative depth dose was calculated according to a recognized system. It will be noticed later that this dosage has been stepped up, first to 600 *r* and then to 700 *r* approximately. It may be of interest to mention here that a skin erythema dose with this quality of radiation delivered at about this rate and rhythm is of the order of 1,500 *r*. It can also be stated that radiation with a half-value layer of 2·75 millimetres of copper has been used, and a cumulative[a] dose of 3,000 *r* has been delivered to the stomach during the treatment of a neoplasm without any clinical evidence of damage to the surrounding tissues.

With our present methods it is realized that some of the oxyntic cells may lie outside the primary beam. In addition, both the zymogen-producing and (possibly of more importance) some mucin-producing cells are directly irradiated. On the other hand, a small quota of side-scattered rays will reach the ulcer itself.

To summarize the fundamental objectives, it can be said that an attempt is made to diminish or preferably to prevent the secretion of acid for a period of some weeks continuously, sufficient to allow for healing of the ulcer. This attempt is limited to the use of an X-ray dosage unlikely to damage important surrounding tissues. At present we have no information concerning the time needed for healing of the ulcer in the absence of free hydrochloric acid. To the best of our belief, such a state has never been investigated. If the ulcer should heal, we are not seriously concerned about the inevitable recurrence of the preexisting hyperchlorhydria after this order of dosage.

Hurst[a] has studied 32 cases in which he considered that healing had been achieved by medical treatment, and he found the high acid level persisting. Moreover, an appreciable percentage (sometimes stated as 5%[a]) of symptomless adults have been found to have hyperchlorhydria, while the dosage needed for permanent destruction of the oxyntic cells is almost certain to reach or exceed the tolerance of surrounding structures.

In order that any results may be of value, it is essential that the material be as uniform as possible. Consequently we have arbitrarily decided that the following conditions should be satisfied before a patient is treated in this way: (*a*) the clinical history should be typical; (*b*) a non-obstructive duodenal ulcer must be demonstrated by so-called "direct evidence" with a barium meal; (*c*) hyperchlorhydria must be present; (*d*) the patient must be free from other organic disease.

Standard investigations have been used before, during and after treatment.

It is appreciated that the fractional test meal as used here has various advantages over the one-hour test meal (for example, that of Ewald). Nevertheless, it is open to several criticisms. For example, the tube is a foreign body and may cause excessive secretion. The material removed may be diluted by mucus and saliva when the tube is swallowed, while it is probable that the actual secretion may vary from day to day. However, when many tests are made over a considerable period of time, these factors are probably relatively unimportant. A fundamental objection is that the more accurate measure of the level of acid secreted is the estimation of the total chloride content. This objection is admitted; but for local reasons the total chloride estimation presented serious difficulties, and we have recorded the level of the free hydrochloric acid as determined by the standard fractional test meal. Further, in order to illustrate this paper, a method of condensing the test meal findings had to be chosen. It was decided that the mean value of the free hydrochloric acid for the eight readings should be used. This procedure enabled a simplified graphic record of acid levels to be plotted against the time during and after treatment. Other criteria considered and rejected were the reading at the one-hour period and the highest reading recorded during the test. The X-ray dosage is indicated during the appropriate time on the graphs. It must also be mentioned here that we have no control series of free acid determinations in cases of duodenal ulcer with hyperchlorhydria in which treatment was not being given. Nor can we discover any record of test meal findings over a period of time in otherwise normal adults with hyperchlorhydria.

We are not impressed by the value of the barium meal investigation in following the progress of a chronic duodenal ulcer. It might be expected, however, that in healed ulcers the part of the local deformity due to muscle spasm would alter or disappear.

Results from tests for occult blood have been unreliable in our hospital. Recent inquiries have indicated that sufficient care has not been given to dietary restrictions. Now that this has been corrected, more reliance will be placed on this objective test.

A standard complete blood examination has been made.

When possible, gastroscopy has been carried out. It is expected that it will provide direct visual evidence of any subsequent changes in the gastric mucosa which could be attributed to the irradiation.

During treatment test meal examinations are carried out weekly and occult blood tests twice weekly. After treatment test meal examinations are carried out weekly for two weeks, then fortnightly for one month, and then monthly for at least six months. Usually a barium meal examination is carried out about one month after the end of the treatment, while blood counts are made immediately after treatment and three months later, unless for special reasons they are necessary at shorter intervals. Occult blood tests are repeated monthly. If possible, a gastroscopic examination is made within one week after the completion of treatment and again two months later.

Results.

Any description of the result of this clinical experiment must, for the present, be subject to many reservations. However, something can be said. It will be noticed from the graphs that in every case the level of the free hydrochloric acid has been reduced. The reduction has been variable both in amount and in persistence. It may be worth recording that there appears to be an initial increase in the free acid within a few days of the commencement

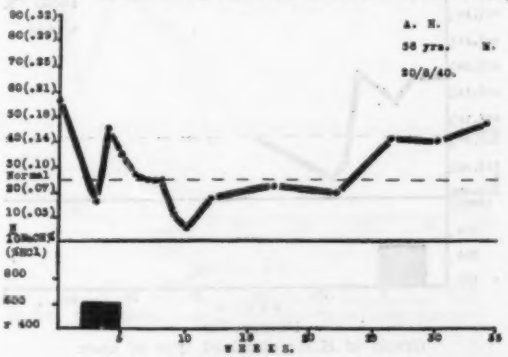

FIGURE III.
Graph of A.H.; standard type of case.

of treatment. Possibly this is due to slight vascular changes similar to those sometimes observed in the skin as a transient erythema after comparable dosage. The variable response to the X rays may be partly or wholly due to some departure from the radiotherapeutic plan previously outlined. For example, it has already been mentioned that some of the oxyntic cells may lie outside the main beam. Moreover, in spite of all precautions, during some of the treatments errors of centring may

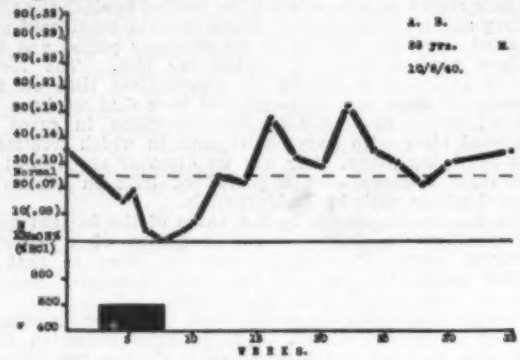

FIGURE IV.
Graph of A.B.; standard type of case.

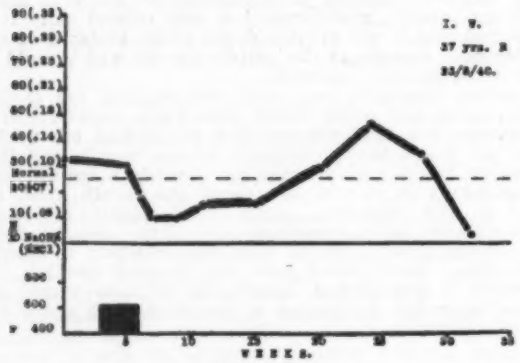

FIGURE V.
Graph of I.W.; standard type of case.

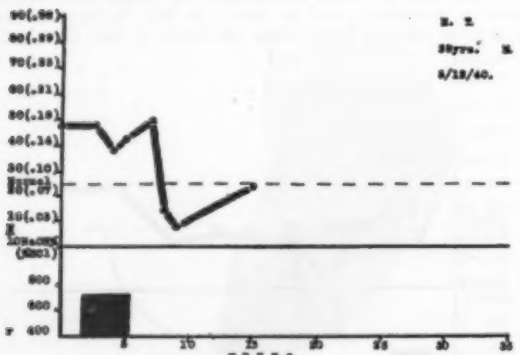

FIGURE VI.
Graph of H.T.; standard type of case.

have occurred. This is particularly apt to happen when the patient is in the prone position. The stomach alters its shape with posture; but this applies least of all to that part which we are endeavouring to irradiate. No fixed time relationship between meals and irradiation has been observed. It is quite possible that the radiosensitivity of the cells alters with the state of their activity.

All possible reasons for variations should be excluded before it is assumed that there is an inherent difference between the responses of different patients. We have insufficient material, at present, to justify any attempt to analyse these differences.

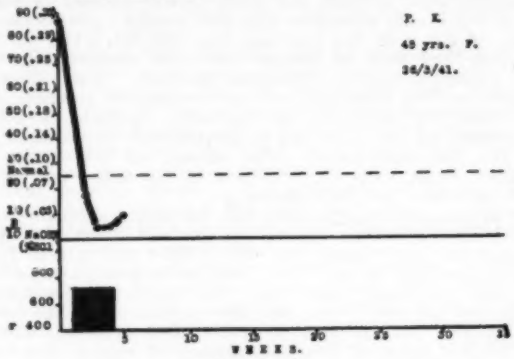

FIGURE VII.
Graph of P.K.; standard type of case. Note, however, the exceptionally high free hydrochloric acid level before treatment. The patient is very stout.

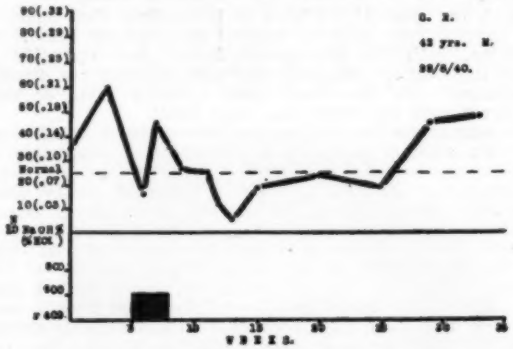

FIGURE VIII.
Graph of G.R. This patient had several haemoptyses, necessitating blood transfusion before treatment could be started.

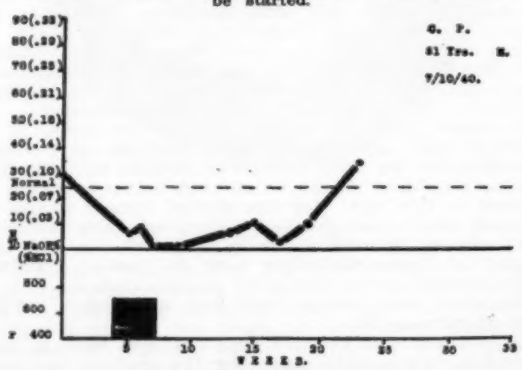

FIGURE IX.
Graph of C.P. This patient had a gastric ulcer, which had perforated twice in three years. Treatment was given in spite of a normal free hydrochloric acid level.

No patient has complained of nausea attributable to the treatment. Subjective improvement in a disease characterized by its periodicity is obviously a doubtful indicator, particularly in this series, in which the apparatus for treatment is elaborate and impressive and

the investigations are frequent and varied. Nevertheless it must be recorded that all patients consider that their condition is improved. Local pain and tenderness appear to have disappeared and a feeling of general well-being is reported. A more varied diet is found to be tolerated without ill effects. Perhaps the best test of the reality of the improvement is the fact that this group of patients, with three exceptions, have willingly endured the not inconsiderable discomfort of the special investigations required so far.

For the sake of emphasis it must be repeated here that this is not an attempt to cover the whole field of the treatment for chronic duodenal ulcer. It is specifically restricted to an investigation of the possibility of temporarily preventing or greatly reducing the secretion of hydrochloric acid at its source. Dosage levels reasonably supposed to be dangerous to surrounding structures have not and will not be employed.

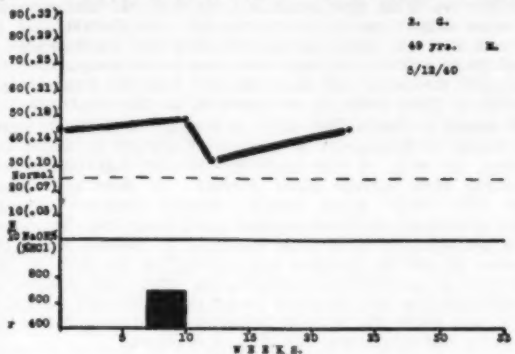

FIGURE X.

Graph of S.G. The absence of regular test meals was due to lack of cooperation by the patient.

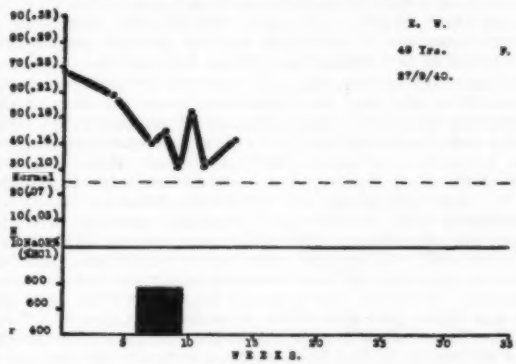

FIGURE XI.

Graph of E.W. This patient was an unstable type of woman who refused further test meals.

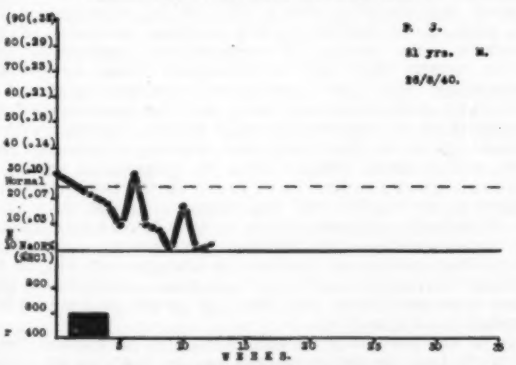

FIGURE XII.

Graph of F.J. This patient had a gastric ulcer with an hour-glass stomach and a gastro-enterostomy to the upper portion. The patient was not cooperative.

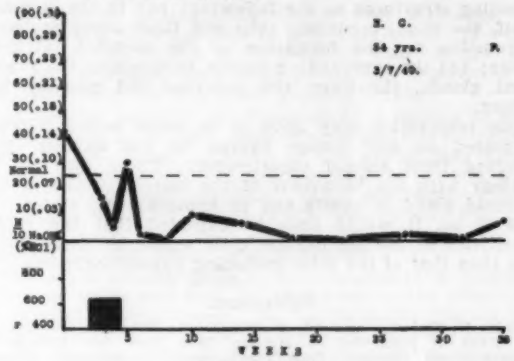

FIGURE XIII.

Graph of H.C. Note the persistence of the low free hydrochloric acid level after treatment.

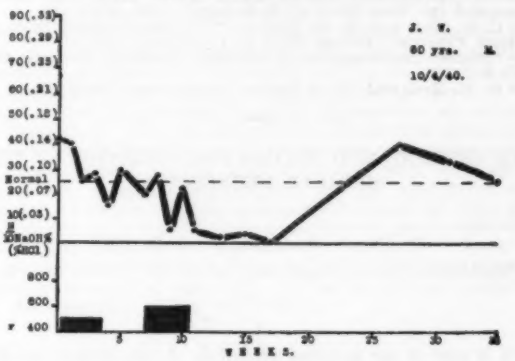

FIGURE XIV.

Graph of J.W. Note two courses of treatment.

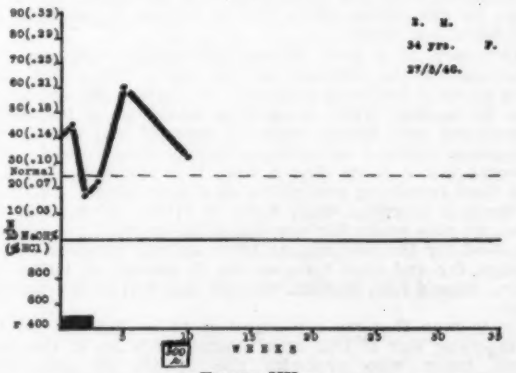

FIGURE XV.

Graph of E.M. Note the fall after the first course of treatment. This was considered insufficient, but during the second course the patient refused further treatment.

Discussion.

At this stage it seems to us that certain problems have arisen which may be effectively elucidated by animal experimentation. The major problems may be listed as follows. (i) Variations in the rate, rhythm and quantity of X-ray dosage with this quality of radiation should be studied as they effect the oxyntic cells. Ultimately perhaps

a dosage curve could be drawn, with the time of achlorhydria on one side and dosage in *r* on the other. (ii) The comparative radiosensitivity of these cells should be compared in their resting and active state. (iii) An investigation should be made of the radiosensitivity of such surrounding structures as the following: (*a*) in the stomach itself, the mucin-producing cells and those areas probably responsible for the formation of the so-called intrinsic factor; (*b*) the surrounding organs, particularly the suprarenal glands, the liver, the pancreas and possibly the kidney.

One reservation may have to be made before reliance is placed on any dosage figures for the oxyntic cells obtained from animal experiments. There may be an analogy with the behaviour of the secreting cells of the thyreoid gland in health and in hyperthyreoid states. If this is so, it would then be expected that the radiosensitivity of normal oxyntic cells would be considerably less than that of the cells producing hyperchlorhydria.

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(2) W. L. Palmer and F. Templeton: "Effect of Radiation Therapy on Gastric Secretion", *The Journal of the American Medical Association*, Volume CXII, April, 1939, page 1429; abstracted in "Year Book of Radiology", 1939, page 447.

(3) C. H. Best and N. B. Taylor: "The Physiological Basis of Medical Practice", Second Edition, 1939, page 719.

(4) "British Encyclopædia of Medical Practice", Volume VII, page 8.

(5) C. H. Best and N. B. Taylor: *Loco citato*, page 717.

THE PRESENT AND FUTURE ORGANIZATION OF THE MEDICAL PROFESSION.

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I.

IT is one of the greatest tragedies of the present conflict in arms raging in the world that the citizens of the Allied countries have no clear object beyond their fight for life. Confronted with the onslaught of a nation which has a hope for the future and a will to achieve it, we fight for we know not what.

Our lack of a goal became increasingly apparent for years before the outbreak of this war. For a few with eyes to see it had been apparent even before the end of the last Great War, when ideals of a return to an impossible *status quo ante bellum* were put forward and sealed with the peace treaties; even then warnings were uttered. This present war is more than a war; it is the end of an age, the final terrifying convulsion of a long illness. Without a doubt a new age must come to birth. If we win the war, we may make the new age what we will; yet without an ideal for the new age, an ideal actively accepted—lived, fought for and died for—we are in danger of losing the war. Should that happen, the new age will be the German Age.

It is true that we are supposed to be fighting for the democratic way of life, even though there are at the same time many who proclaim the failure of democracy. Democracy has not failed, because democracy has not yet been tried. Should we listen to those who speak of failure, we run the danger of surrendering our right ever to experience democracy.

Democracy is not a real thing to the vast majority of the citizens of the Allied countries. Probably not one man in a hundred could define the word. The old catch-cry "government of the people, by the people, for the people" is heard often enough; as applied to the conditions that have existed so far it is nearly meaningless, and dangerous too, for it leads people to think they understand a word that too often has been a cover for anti-social intrigues. "Democracy" is a word not properly defined—that is, it means different things to different people—and we cannot therefore start from the word. What we can do is to define a condition of society which would probably be satisfactory to the peoples at present called "democracies"; whether we label that condition, as defined, "democracy", or some other name, is immaterial. It should also be noticed that the state of society, and the mechanisms it employs to achieve certain ends, are not synonymous; for example, elections and freedom are not the same thing, despite a good deal of propaganda to the contrary.

It seems probable that what is sought, or desired, under the name of democracy is a state of society in which the wishes, or will, of the majority of the individuals constituting that society shall prevail. It does not follow that this "will" must prevail merely because through some system of elections certain candidates may be elected to a parliament; it is most unlikely to prevail when the organs of public opinion are controlled by and in the interests of centralized institutions, when the policies of candidates are put forward ready manufactured on party lines, and when the highest loyalties of representatives are to party organizations and not to electors.

Unfortunately political philosophy lies outside the apparent interests of most members of the medical profession; nevertheless, it is highly relevant to their real interests, not only because their future must be determined by political events, but also because the condition of external society is reflected in the present constitution and trend of the organized medical professison.

In external society the real direction of policy is in the hands of a few, and that direction is in the way of consolidating the power and prestige of an oligarchy. This policy has proceeded just so far as an unawakened citizenry has allowed—and as a result, for years little has been left of personal freedom for the vast majority of citizens. It is most important to note that freedom is closely correlated with income, and personal security with the certainty of income. Freedom and income that depend on the will of another are only conditional freedom, whereas an unconditional income is almost unconditional freedom. It should also be noted that an income dependent on the State has the effect of subjecting the individual to the State; this is the inevitable outcome of socialism, and differs from the Nazi method only in the method of achievement.

This problem of centralized direction of policy is to be found in the medical profession. Originally, no doubt, medical practitioners joined together in organization for the purpose of furthering the common interests of the members. By uniting in organizations, individuals can obtain results that they could never obtain by isolated endeavours. But an organization becomes unwieldy as it grows; it becomes necessary for the members of the organization to empower a small number to act on their behalf. It is at this point that division of interest may arise. The small number may be empowered to act to achieve a specific objective, or to act in the interests of the majority; or merely, and too often, to act as they think fit. This last-mentioned case is what is known, particularly in the newspapers, as "strong" government, and means, very often, acting in the face of the general will of the persons the small number of members represents. How these representatives will think fit to act in general is a psychological question.

It is not necessary to adhere to any particular theory of psychology to recognize that human individuals behave in ways designed directly or indirectly to achieve power over others. Such behaviour varies greatly in degree as between one individual and another, and its manifestations are protean. MacDougall's term "self-assertion" is a sufficiently useful label to distinguish this form of behaviour. Associated with this striving, when it is successful, are feelings of prestige, of self-importance; and loss of prestige is a check to self-assertion, so that persons whom one would not perhaps recognize as self-assertive will, to guard their feeling of prestige, behave in a way that is essentially, if not obviously, self-assertive. Now, when an organization is formed, it is likely that persons

who are strongly self-assertive will rise to the leadership, in which position their prestige is enhanced. Such persons are then likely to favour the "strong-government" theory. While such a leader may act in the interests of the whole group, there is no implicit guarantee of this. If, however, his continuation in office is or can be made conditional on his advancing the general interest, he is quite possibly the right man in the right place. In these circumstances, it is necessary that the members of the group understand both the psychology of leaders and the nature of their own interests. In the wider sphere of politics the public is certainly ignorant on the first point, and misinformed, deluded and deceived on the second. Hence the patent failure of so-called democracy.

II.

When one surveys the field of contemporary medical organization, one cannot but be struck with the lack of cohesion, the absence of *esprit de corps*. The British Medical Association—"the most powerful union in the world"—is no longer able to secure good attendances at meetings of the local associations. This is commonly ascribed to lack of interest, laziness, lack of appreciation of the advantages of association, and so on. Yet it quite as probably arises from a feeling that the British Medical Association is not directly serving the interests of the majority of its members. The belief that the leaders are more concerned with the interests of the type of practitioners from among whom they are drawn—and in the circumstances must be drawn, as has been pointed out by numerous correspondents of this and other medical journals—is extremely widespread, and at times has seemed to be not without foundation. This development has emerged parallel with the development of specialism and seems to be not unconnected with it.

The position with regard to specialism is put with great clarity by F. L. Davies.[a] He draws attention first to the fact that specialism was once a sort of graduation from the ranks of general practice, whereas now it is becoming increasingly common for doctors to specialize from the date of their graduation. He deplores this, and goes on:

> I am somewhat appalled by a growing tendency in different quarters for the belittling of the work of men in general practice and from a whittling away from them of certain spheres of activity to which they should have a certain claim; general practice is not such a popular field of activity as other fields of medical work, and actions and enactments which may make it less popular will increase the number of specialists, who in turn will desire to take over more of the work now done by general practitioners; thus a vicious circle will be created. Such a state of affairs will not be wholly beneficial to the community.

Dr. Davies's whole address, and this extract in particular, deserve close and practical attention. The words "actions and enactments" are not accidental, and should bring home to the whole of the medical profession what has been going on without much publicity for some time now.

At first sight it might seem that the "vicious circle" would defeat its own end; all general practitioners would become specialist-general practitioners, as of course a few have already. This would merely be equivalent to the raising of the standard for admission to qualification, and if such a step were necessary it could be done more simply by an outright raising of the standard. A degree that entitles a graduate to practise medicine, surgery, obstetrics and all the rest should not be given at all if the standard is not sufficient; for one thing, it makes rather hollow our claim that some of the refugee doctors——specialists abroad—should not be allowed to practise here.

However, a check to this process of specialist-generalism is evident—and strongly reminiscent of older times. Henri Pirenne,[b] writing of the handicraft stages of industry, states:

> As they [the handicrafts] evolved, the two essential features of their constitution—monopoly and privilege—became more and more prominent . . . The admission of new members was made more and more difficult; apprenticeship became more protracted and more exacting; promotion to the rank of master became more costly, so that the poor journeyman could hardly hope to achieve it . . . The original spirit of fraternity was replaced, among the craftsmen, by an increasing opposition of interests between the masters and the journeymen.

The modern developments in our own profession are unfortunately only too true to this description. It would be a bitter retribution if the parallel went further, and our own craftsmen were replaced by the manufacturing chemists and X-ray and other machine vendors.

At present, however, the development is leading to what might almost be called a caste system, and the attitude of some of the higher members of the castes goes rather beyond the mere belittling of the work of general practitioners, to a somewhat thinly veiled contempt. This is unpleasant to record; but it is so. Side by side with this situation goes the policy of, in effect, restricting the number who may climb the caste ladder.

The whole process seems to have originated in England, and it no doubt rose from the somewhat uneven conditions of medical practice there. In Australia the process has been copied; this is rather discreditable, since the occasion for it did not exist to anything like the same extent and the advantages that do accrue from it are by no means confined to the general public.

The imitation of the English conditions was extended to the national insurance measure. One of the effects of the act in England is to make it unremunerative, for any but those who can obtain special recognition, to practise surgery; in Australia the effect was to be to place the same legal bar to the general practice of surgery in the way of those recognized by their universities as entitled to practise it. My own inquiries revealed that there were some among those who conducted the negotiations on behalf of the members of the profession who were anxious to have this provision incorporated in the Australian act. While the general trend in Australia suggested that this would be so, I must confess to having been somewhat shocked at hearing the suggestion confirmed. I know of no evidence to show that these representatives were merely putting forward a suggestion agreed to by the majority of the members of the Association.

III.

The matters dealt with in the first two sections appear to me to be of vast importance, and though they have been dealt with in bare outline only, they may serve to suggest a basis for some future endeavours of the profession as an organization, associated together through the British Medical Association. Now, since this is a free association of the members, it is assumed that it is intended to be a democratic organization in the sense of the word discussed in Section I. The essence of this democracy is that policy must be determined by the majority of the members, and not by the representatives of those members. It is the function of the representatives to take whatever steps are practicable to discover the will of the majority in regard to any particular matter of policy and, in so far as these representatives are an executive body, to carry out that policy, and no other. It is the will of the members of the Association, and not the will of the representatives, which should govern the Association.

In respect to many questions this matter may not seem to be of great importance; but the attitude of mind of the representatives to matters of policy is important. When the future of the medical profession is involved by a general policy, as it is now, and has been for some time, the matter is of great importance; the alternative policies should be clearly put before and understood by all the members of the Association, and the majority decision in respect of those policies should be determined and put into effect.

It seems to be widely accepted now, both by the profession and by the public, that change—great change—lies before the medical profession. The major questions are: What kind of change? How will it come about?

With regard to the first question, change can be in the direction of centralization of control, or in that of decentralization. Socialization, nationalization, national health insurance (administered by the government) are systems of centralized control. They all have the effect of subjecting the individual medical practitioner to "higher authority". It seems to be in this direction that the medical profession is moving—or is being moved. But I do not believe that the majority of practitioners would favour this, especially if they fully realized its implications, and it is only fair that the issue should be put plainly to them, and that their opinion on the matter of policy should be determined. Politicians naturally are in favour of nationalization, because nationalization will give the politicians control over the medical profession; and control over anything, but especially over what he does not understand, is gratifying to man and particularly so to the politician. It inflates his sense of importance.

That the politician's stand in this matter is insincere is demonstrated by his failure to contend with such evils as the advertisement and sale of quack remedies, numbers of which are known to do positive harm to the health of numerous members of the community, and very many of which have been proved to be frauds.

Whenever a scheme for the future of the medical profession is put forward the individual practitioner should ask himself these questions: Does this scheme subject me to increased external control? If so, what effect would I, as an individual, be able to exercise on this control? Who would exercise the control? Who will benefit from the control? If the answer to the first question is "yes", then he is dealing with a centralizing scheme, and can be on his guard accordingly. Many schemes for acquiring power over others are camouflaged with fine verbiage, as many an inferiority complex is hidden beneath a socialistic philosophy.

Since schemes for nationalization and socialization are frequently put forward and must be familiar enough to everyone, it is proposed only to examine what can be done towards reversing the trend to centralization. Decentralization will come about only through democratic control from within the medical profession, while eventual complete centralization with its bureaucratic control is certain to be forced on the profession if the politicians obtain control, as they so nearly did through national health insurance.

With these considerations in mind, some objectives for the profession may be enumerated:

1. The provision of the best possible service to the community.
2. The reduction of cost to individual patients.
3. The training of thoroughly competent general practitioners.
4. The provision of a true consultant-specialist service.
5. The maintenance of the individuality of doctors.
6. The maintenance of the personal relationship between doctor and patient.

1. There is probably no other section of the community which may more truly be said to aim as an organization at the provision of service as a first consideration than the medical profession. The method of achieving it, however, is a source of argument. There is a large body of agreement—even if some is lip agreement only—that the foundation of a good medical service is the general practitioner. It seems logical, therefore, to concentrate on the production of the best possible general practitioner. This is not likely to be accomplished so long as there is the constant "whittling away" of his sphere. The efforts made in some quarters to educate medical students to be good classifying clerks, able after a little consideration to decide to whom to send their patients for treatment, is strongly resented and has resulted in that rush to specialize noted by Davies.

The following may be a practicable solution for these difficulties. Let it be obligatory for any medical practitioner desiring to specialize to engage in general practice for a minimum number of years. Reorganize the teaching system so as to give the student the maximum opportunity of acquiring experience and the resident medical officer the maximum opportunity of enlarging that experience. In effect, this means modifying the honorary system. The hospital student, at least in his second year, could do much that is now done by the resident medical officer, while the resident medical officer could do much that is done by the clinical assistant. Further, by limitation of the number of appointments that a man might hold in an honorary capacity, and by limitation of the number of years for which an appointment might be held, the more rapid turnover would enable those who at present acquire experience as clinical assistants to acquire it as honorary medical officers.

If the effort were really made along such lines as these, there is little doubt that the standard and capabilities of the general practitioner could be raised and a greater general interest in general practice would be restored. Would such a reform be popular? There is little doubt that students, resident medical officers and general practitioners would be glad to see it, and these at the moment constitute a majority in the medical profession. But the reform could not be expected to come from the top, for the reasons suggested previously; it will come only if democracy operates in the profession.

From the ranks of general practitioners would arise those who, finding in practice their capabilities to lie in one direction rather than in another, would surrender the rest in order to concentrate with understanding on the aspect of medicine to which they were best suited.

2. The average cost of medical attention is not great. When it is remembered that the cost of ten cigarettes per day is approximately £10 per year, it can be seen that as a relative expense medical fees are comparable with the cost of a very common habit. If this sum were made available each year from each family, an adequate medical service could be provided, including specialist investigations and treatment.

It is a curious thing that the only solution which is at all commonly put forward is that the State should intervene, usually to socialize medicine. An exception, however, is to be found in an address by J. A. Hannah,[3] whose opening remarks were as follows:

> Let us make no mistake; only in so far as we as a profession know the problem of health insurance and are willing to cope with it will there be any form of satisfactory answer [to this social problem]. It is suicide for us to allow laymen, politicians or otherwise, to gain control of this situation. This we have found through our experience in hospital work. Hospitals are no longer the servants of physicians, as originally intended: the servant has become the master, to the detriment of both profession and public. This problem has never been satisfactorily answered, nor will it ever be until the profession has assumed its full responsibility, not only in regard to practice but also in relation to its economic adjustment.

Hannah gives an excellent survey of existing forms of medical practice, and fully displays the dangers that beset the tradition of our profession, and outlines a system designed to meet the situation—a system adopted in Ontario with great success.

Now if the medical profession hands over its organization to the State, or if through impatience or anything else the State takes over this organization—and we had an almost miraculous escape from national health insurance—our initiative is gone for ever. We make a single institution responsible for our incomes, and thereby become the servants of and primarily responsible to that institution. While we depend for our incomes on a large number of different persons, we are subject to none, though no doubt our reward is proportional to our worth.

Nor is this all. The chief concern between doctor and patient is the health of the latter—obviously for the latter, and if not so obviously for the doctor, none the less truly. With regard to the State, however, other considerations enter, the most prominent being the economic aspect. The wretched and degrading squabbles about the capitation fee should be evidence enough of this. Then, too, the State sets up a horde of petty officials, each with his own prestige to enhance and place to justify, animated by motives far removed from the simple considerations that arise between doctor and patient. In short, between

doctor and patient come bureaucratic considerations of economy, officiousness, red-tape and intrigue.

The problem actually is perfectly simple. It is concerned only with so distributing the cost of medical attention that it is no longer a heavy burden on particular persons. This problem has been solved quite satisfactorily by the initiative of the medical profession alone in places in the United States of America, in Ontario (see Hannah's paper) and nearer home, in Canberra. The essential features of the solutions in all these cases are the same: the keeping of the control of the organizations in the hands of those rendering the medical services, and the distribution of the cost on an insurance basis. To achieve the former a decentralized arrangement is necessary; the doctors in each locality should together be responsible for the administration of a suitable insurance scheme in their area. The amount of work involved in this—I write from practical experience—is considerably less than the work involved in sending out accounts; the cost is trifling. The advantages in convenience and self-respect are enormous.

Objectives 3 and 4 have been dealt with incidentally in the discussion of the first objective.

5. The maintenance of individuality for doctors means the maintaining free from bureaucratic control of the relationship between doctor and patient, and it includes the capacity to accept responsibility for one's patients. It supposes the maintenance of a high standard of general practice, and of an "unwhittled" sphere for the general practitioner. A doctor cannot but lose individuality and initiative where responsibility is taken by "higher authority", where new crimes such as "over-dispensing" are penalized by bureaucrats, and where those who lack overbearing personalities are pushed aside in the scramble for power and prestige in the hierarchy.

6. The value of the personal relationship between doctor and patient, the value of the "family" practice, has been emphasized by writer after writer. Let us hope that this tribute is more than lip service to an ideal, that the ideal will never be betrayed, by apathy or anything worse, to the impersonal economy of the State.

Summary.

1. In so far as society and the medical profession are both organizations, there is a parallel in their respective structures and in the behaviour of their leaders. The concept of democracy is analysed, with special reference to democracy in the medical profession.

2. Examination of existing sociological trends reveals increasing centralization of authority, and it is argued that this is inimical to the individual member of the community and consequently is not in the best interests of the community. This trend is strongly evident in the medical profession.

3. A policy of decentralization is advocated, together with reform of teaching in the medical profession. Methods of achieving these aims are considered.

References.

(1) F. L. Davies: "An Address", THE MEDICAL JOURNAL OF AUSTRALIA, February 3, 1940, page 144.
(2) H. Pirenne: "A History of Europe", 1939, page 385.
(3) J. A. Hannah: "Implications of Health Insurance in America", Supplement to *The British Medical Journal*, December 23, 1939, page 245.

Reports of Cases.

A CASE OF ACUTE PANCREATITIS WITH UNUSUAL FEATURES.

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Clinical Record.

MRS. H.G., aged fifty-one years, was admitted to the Hornsby District Hospital on May 6, 1941, in a collapsed condition with pain in the left hypochondrium. The pain had started on the night of May 4, 1941, but was not very severe and was more in the right hypochondrium. It resembled three similar attacks which had occurred in the previous eight weeks. Two of these attacks had been associated with jaundice, which lasted for seven or eight days. She was not examined till the morning of May 5, 1941, when a hypodermic injection of a quarter of a grain of morphine and one one-hundredth of a grain of atropine sulphate was given. The pain continued in a mild degree during the day and night.

On the morning of May 6, 1941, her husband reported that she had had a rigor and was jaundiced. It was customary for her in each attack to go to her daughter's home to be cared for, and it was while she was getting into the motor car that she felt very ill and collapsed. She was examined one hour later and was then in a collapsed condition, being almost pulseless. The systolic blood pressure was 60 millimetres of mercury and the diastolic pressure could not be registered. Her colour was bad, respiration was shallow and death seemed to be impending. The upper part of the abdomen was rigid, but not board-like, and tenderness was pronounced in the left hypochondrium in the line of the pancreas. A hypodermic injection of one-sixth of a grain of morphine and one one-hundred-and-fiftieth of a grain of atropine sulphate was given.

When she was seen at hospital one hour later her condition was unchanged; the temperature was 102° F. and the pulse rate was 140 per minute; the systolic blood pressure was 68 millimetres of mercury and the diastolic pressure was 20. The conjunctivæ had an icteric tinge, the face was suffused, and pronounced cyanotic mottling was present on the skin from the level of the sixth rib anteriorly over the lower portion of the chest and spreading over the abdomen and lower limbs to the toes. There was no vomiting. Loewi's test produced no reaction. A blood count gave the following information: the erythrocytes numbered 5,100,000 per cubic millimetre and were normal in type; the hæmoglobin value was 88%. The leucocytes numbered 18,500 per cubic millimetre; 83% were neutrophile cells, 8% were lymphocytes, 9% were monocytes and 28 band forms were seen.

On May 7 her condition had improved slightly. The temperature was 98° F. and the pulse rate was 140 per minute; the volume was slightly better. The systolic blood pressure was 72 millimetres of mercury and the diastolic 48. The abdomen was more resistant, and tenderness was still present over the pancreas and gall-bladder. The mottling remained as on May 6; in addition petechial patches were present on the lateral portions of both buttocks and there was a slightly brownish discoloration just below the ribs posteriorly. Icterus was present. A few râles were heard at the bases of the lungs. The diastase index of the urine was 512 and the fasting blood sugar level was 0·160%.

On May 8 her condition had slightly improved again. The temperature was 99° F. and the pulse rate was 128 per minute; the pulse was still soft. The systolic blood pressure was 108 millimetres of mercury and the diastolic 78. There was less pain, but she had vomited bile-stained fluid during the night. The tongue was dry and slightly coated. Less icterus was present. The upper part of the abdomen was still resistant and tender, and some costo-vertebral tenderness was present on the left side. The cyanotic mottling was disappearing from the abdomen, but was still present on the lower limbs. A rectal injection of saline solution was given and was followed by a litre of 5% saline solution ("Soluvac") intravenously, which was given in mistake for normal saline solution. Two hours later the patient became delirious. After the effects of 30 grains of potassium bromide and 15 grains of chloral hydrate had passed off she was quite normal mentally and said that she felt much better; the volume of the pulse had greatly improved.

On May 9 she was very much better; she had had no vomiting since the intravenous administration of saline solution. The tongue was clean, but a little dry. She drank copiously of bland fluids. The pulse rate was 90 per minute and the volume was good; the systolic blood pressure was 118 millimetres of mercury and the diastolic 78. The cyanotic mottling was much fainter, but was still seen on the lower limbs. The abdomen was softer and no longer tender. Slight icterus was present. The diastase index of the urine was 8·0. The fasting blood sugar level was 0·102%.

On May 10 the patient felt very well; she had no pain or vomiting and was asking for food. The tongue was still dry, but clean. Some faint mottling persisted on the lower limbs. The pulse was of good volume and the rate was regular. The systolic blood pressure was 148 millimetres of mercury and the diastolic 78. From this time her condition steadily improved; she had occasional rises of temperature up to 99° or 101° F., and was finally discharged from hospital on May 28, completely recovered.

The patient had had six children; the fifth died at the age of six days from congenital heart disease, but the others were well. She had undergone cholecystectomy in 1934; the gall-bladder was found to contain numerous small stones. She had been completely free of pain for two or three years after that operation, but she had had some pain during the past four years; it was not very troublesome till March, 1941. Trachelorraphy was performed in 1936.

Commentary.

The urinary diastase index of 512 confirms the diagnosis. Morley[1] has stated that no other test compares with it in importance, and Ogilvie[2] that statistical pancreatitis is pancreatitis diagnosed by the diastase test. The circulatory failure associated with rapid pulse and extremely low blood pressure suggested coronary thrombosis; but a subsequent electrocardiogram taken by Dr. F. A. Lawes revealed no evidence of coronary disease.

The pain was not so severe as that usually associated with acute pancreatitis; but different authorities give different standards. Ogilvie[2] places the severity of acute abdominal pain in the following order: (i) perforated duodenal ulcer, (ii) gall-stone colic, (iii) renal colic, and after a definite gap (iv) acute pancreatitis; yet Moynihan[3] has stated that "no other catastrophe within the abdomen produces at once such unendurable agony and so profound a collapse", and Morley[1] has stated that "the pain is of savage intensity and bores through to the back".

The cyanotic staining over the abdomen with petechial patches on the buttocks and slight brownish discoloration just below the ribs posteriorly (Grey Turner's sign) are referred to by most authorities; but the only mention I could find of the cyanotic mottling on the limbs was by Moynihan,[4] who considers it "an undeniable evidence of acute pancreatic disease", and by Halstead.[5]

The previous attacks—three in two months, and two of them associated with jaundice—at first clouded the issue. One wonders whether lymphangitis following a blocked common duct spread to the pancreas and started the acute pancreatitis, as suggested by Arnsperger,[6] Judd[7] and Deaver.[8]

Complete recovery from acute pancreatitis is not common, and the method of treatment is by no means standardized. Most authorities advocate early operation with drainage of the necrotic pancreatic tissue, while some prefer to delay operation until they are sure of abscess formation. Most authorities agree that cholecystectomy saves a patient from a possible acute pancreatitis; but such was not the case with this patient.

This case supplies all the necessary diagnostic features, and one might assume from the urinary diastase index of 512 (normal, 4·0 to 50·0) and from the severe collapse and low systolic blood pressure (60 millimetres of mercury) that it was not a mild case. The drop in diastase index from 512 to 8·0 in two days, the latter figure occurring eighteen hours after the intravenous administration of hypertonic saline solution, seems significant.

There are two questions one would like to be able to answer: (i) Is it possible that the intravenous administration of 5% saline solution aided the patient sufficiently to overcome the condition of acute pancreatitis? (ii) Would it be worth while giving hypertonic saline solution intravenously to other patients suffering from acute pancreatitis? The difficulty in answering these questions lies in the fact that most surgeons see comparatively few cases of acute pancreatitis over a period of years, and thus lack the opportunity to put such treatment to the test.

References.

[1] J. Morley: *Proceedings of the Royal Society of Medicine*, December 7, 1938, page 670.

[2] W. H. Ogilvie: *Proceedings of the Royal Society of Medicine*, December 7, 1938, page 680.

[3] B. Moynihan: "Abdominal Operations", Fourth Edition, revised 1926, Volume II, page 458.

[4] B. Moynihan: *Loco citato*, page 456.

[5] L. Arnsperger: "Pancreatitis in the Presence of Gall-Stone Disease", *Münchener medizinische Wochenschrift*, Volume LVIII, April 4, 1911, page 729.

[6] E. S. Judd: "Relation of Liver and Pancreas to Infection of Gall Bladder", *The Journal of the American Medical Association*, Volume LXXVII, July 16, 1921, page 197.

[7] J. B. Deaver: "Pancreatitis", *Surgical Clinics of North America*, Volume I, January 1, 1921, page 1.

[8] A. E. Halstead: "Nelson's Loose Leaf Surgery", Volume V, page 462.

Reviews.

MEDICAL DISEASES OF WAR.

SIR ARTHUR HURST's new edition of his "last war" book proved so successful that a fresh edition has now appeared[1]—barely eighteen months after the first. It has grown and the additions are all exceedingly valuable. There are some new chapters, of which three are of special interest to Australians—those on amœbic dysentery and malaria, and a third on meningitis.

The chapter on amœbic dysentery was in the 1918 edition, was dropped from the 1940 edition, but, owing to the present Middle East campaign, has been replaced after being rewritten. It is illustrated by a series of excellent photomicrographs. These are the work of Colonel Craig, of the United States Army Medical Corps. Like all the rest of the book, it is the result of practical first-hand observation, modified by a thorough knowledge of other workers' reports. In treatment, apart from the normal advocacy of emetine, the drug next most recommended is "Yatren"-chiniofon (iod-oxy-quinoline-sulphonic acid), which is difficult to procure in Australia. "Carbarsone", an arsenical compound, which is obtainable, is dismissed as an inferior remedy and as often giving rise to symptoms of arsenical poisoning. Not everyone would agree with this statement—workers in this country have found the drug effective and not producing any toxic signs. It, in common with "Yatren", apparently will clear up the chronic stage of the disease. Sulphoguanidine had not apparently made its appearance when the article on bacillary dysentery was written.

The chapter on malaria is from the pen of Colonel H. B. F. Dixon, and in 25 pages he has packed a detailed account of epidemiology, pathology, clinical aspects, treatment, prevention and even blood-film technique. A section on blackwater fever is included, and the whole makes up a complete summary of our present knowledge. Only one minor criticism may be made, and that is that the great superiority of quinine draughts to all tablets and capsules is not sufficiently emphasized.

A chapter on meningococcal infections is the third addition, by Colonel A. W. Stott. This chapter is an admirable epitome of present-day knowledge and should be read by every medical officer in charge of troops in camp. The fulminant form of the disease which has occurred in Australia receives special mention. Naturally the bulk of the chapter is devoted to the meningitic form, and special stress is laid on the all-important and interlinked factors of early diagnosis and suitable treatment.

Inevitably the author insists on the correct use of the sulphonamide drugs, of which he considers sulphathiazole the best. He quotes Banks's table of dosage with approval, though with a little apprehension at the large doses recommended for children, an apprehension not shared by those working among children in this country. Actually the Banks's scale is being used generally in Australia and there have been few ill effects. Serum he thinks unnecessary nowadays.

A melancholy interest attaches to the chapter on the anxiety neuroses by the late Dr. T. A. Ross; to it he had added a postscript on cases developed during the present war. It maintains the high standard his writing has always had and shows his death to have been a very great loss alike to colleagues and to patients. Of the whole of this section, it is one to be recommended for repeated reading by every medical officer (and, one might add, combatant officer) serving with troops.

Sir Arthur Hurst himself has added a new chapter on digestive disorders. He quotes *The Lancet*, "that dyspepsia presents the largest single type of disease in the Army", which is probably true for the Australian Imperial Force and equally so for the Royal Australian Air Force. Sir Arthur Hurst attacks the problem with all the might of his "New Lodge" experience, and the result is another epitome of sound clinical medicine. No one can read this chapter without learning something, and to the junior medical officer it should be a constant work of reference.

The remainder of the book maintains its former high standard. The same wide range from hysteria to scabies is covered, and the whole leaves little to be desired. It is, however, a fair criticism that influenza is as much a war disease as meningitis, but it is not described. The book has become the standard text-book on medical disease of war—it should be available to all doctors doing war work.

[1] "Medical Diseases of War", by Sir Arthur Hurst, M.A., D.M., F.R.C.P., with the cooperation of H. W. Barger, M.A., M.D., F.R.C.P., H. B. F. Dixon, M.C., M.D., D.T.M. and H., F.R.C.P., F. A. Knott, M.D., M.R.C.P., T. A. Ross, M.D., F.R.C.P., and A. W. Stott, M.A., F.R.C.P.; Second Edition; 1941. London: Edward Arnold and Company. Demy 8vo, pp. 435, with illustrations and diagrams. Price: 18s. net.

The Medical Journal of Australia

SATURDAY, DECEMBER 27, 1941.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

Reference to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

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THE OPEN MIND IN MEDICINE.

WITH the close of the year 1941 thoughts will inevitably turn to the world turmoil and the uncertainty about the future with which all mankind is faced. In this remote land of Australia many persons have greeted one another at the so-called festive season of Christmas with conventional phrases, and wishes for "a happy new year" are being exchanged on every hand. It is better so, even if the words are sometimes spoken from ingrained habit of many years and are not the expression of determination, of steadfast hope for the future. "The Preacher" has told us in the book Ecclesiastes that "to everything there is a season and a time to every purpose under the heaven". At the end of one year and the beginning of another comes a time for stock-taking, for self-examination and for girding up the loins for future effort. As a nation we look back over our efforts in the past year to bring the war to a successful issue and lay plans for the future that we may be worthy of the calling wherein we are called to achieve a just peace among the peoples of the earth. This is a theme that might be pursued at some length, and the pursuit would be a healthy exercise; but on this occasion the thoughts of readers are directed, as is appropriate, to the narrower confines of medicine and our approach to its scientific rather than its political aspects.

In spite of the war, and also because of it, medical science makes progress. On previous occasions we have referred to the danger of an "intellectual blackout" caused by war aims and efforts, and we may take it as a sign of mental health and national stability that all thought of progress in the medical and allied sciences has not been arrested in the struggle for victory over an evil and unscrupulous foe. It may, of course, be argued that any increase in medical knowledge, whether it is gained at the bedside or in the laboratory, is an aid to the building of a healthy and happy nation and so is a weapon of war. Some of the newer investigations, such as those into the use of sulphonamide compounds in the treatment of wounds, are of immediate practical value in the conduct of war. Others have a more general bearing, and it is these which must be regarded as of special significance. Wars may come and wars may pass, but the mental attitude of the follower of medicine must not change. He may, and indeed he must, make the special contribution to the efficiency of his country's fighting forces that lies in his power; but his contribution will be full and worthy only if he preserves the inquiring, impartial and open mind of the scientist.

A well-known Australian writer has stated that man "closes his ledger" at forty years of age—that after this milestone in life has been passed the mind is no longer able to receive new impressions, and that what we may call the dull conservatism of middle age takes possession of it, to pass at length in blinkered self-satisfaction to the close-shuttered obstinacy of age. This is probably true of many, but it should not hold for the scientifically trained man or woman unless the mental processes have been allowed to become dull and sluggish by starvation and desuetude. The mind in medicine which becomes impervious to new ideas will obviously fall into error when fresh ideas contain the germ of a new truth or show the path that may lead to a fresh discovery. To perpetuate error is thus concomitant with a clogged and shut-in mind. Norman F. Miller, in an address to the Section on Obstetrics and Gynecology of the American Medical Association, published in the journal of that association for September 13, 1941, has stated that the distortion of mental process attendant on the world war is one of the causes of the perpetuation of error today. His remarks had particular reference to obstetrics and gynæcology, but some of them will be found to apply to the whole of medicine. We do not propose to discuss Miller's address as a whole, but rather to refer to one or two of his statements, as they have a bearing on the subject under discussion. Miller thinks that one of the ways in which errors are perpetuated is by the "forcing" of young men and women to write "in order to achieve recognition". This opens up a large and debatable subject. It has been stated that in certain centres of medical learning members of hospital staffs are required to contribute to medical journals in order to show that they are worthy of their staff membership. If this is true, it is deplorable, and shows a lack of understanding on the part of those who have made the regulation. Miller writes of: "over-zealousness in the field of medical writing, the result of increasing competition and the perpetuation of a false standard for gauging a man's worth, based almost entirely on what he writes and less on his other marks of proficiency". In this journal we have repeatedly insisted on the duty of medical practitioners to record observations which are unusual or may be of help to other practitioners. Advances are made oftener as the result of many observations by many workers than by the single observation of one. Some practitioners have the urge and the ability to write, and their words are of use to others whose minds are not so fertile of ideas. On medical editors the responsibility for publication must rest; but even they are handicapped by the necessary publication of papers read at meetings of certain societies and by the "bread and butter" requirements of those who cannot or will not digest "strong meat". Miller holds that the reporting of

facts "should be motivated by the accumulation of interesting and important scientific data rather than by the customary desirability of quantity production". The scientific motive is the most praiseworthy; but we have to remember that medical men and women have no opportunity to disseminate their ideas among their fellows except by contributions to medical journals, and they have every justification for desiring to do so. The matter may be reduced to a question of the open mind. Contributions to medical literature which contain new ideas are a product of the author's spirit of inquiry. The ideas may or may not ultimately be proved to be true, but when they are read by others they will provoke thought in the mind of the reader and keep him from "closing his ledger". Miller writes: "By fostering an era wherein the older, experienced men do the reading and the younger, less experienced individuals do the writing, we have accumulated a medical literature which is long on quantity and, let this be said for the young men and women, surprisingly good in quality." If the older men and women do not write, we may take it either that they are too lazy or that they have no ideas which impel them to write. If the younger men and women do the writing and the writing is of good quality, we may take it that they have ideas. If, then, as Miller states, the older men read, they should be grateful to the younger generation for providing them with ideas so that their minds do not run in a groove which ends in what we have called the close-shuttered obstinacy of age. Age for the scientific is really not a question of years; it depends on an attitude of mind. The inquiring mind, more common in youth, is sometimes a heaven-sent gift, but not always; it can be cultivated, and like any other cultivated product, it needs constant attention. An inquiring mind, open to conviction, will not always be able to make a wise discrimination. To see the errors of the past and to recognize their purblind perpetuation is simple; to find error in present day theories and beliefs is not simple. We are too close to what is going on around us and can gain no perspective. This means that we have to guard against two dangers—first, that our minds may be so open that they become like draughty corridors, where nothing will stay in place; the second, that they become so conditioned that hobby horses find in them a permanent home. One of the best preventive measures against this state of affairs is the criticism of others, either in open conference or in the pages of medical journals. Our final conclusion, and one which should not need to be stated, is that in no time of his professional life does the medical practitioner reach a stage when he can cease from critical study of the work of others and of his own reaction to it. The first is of little use without the second, and renewed effort to cultivate the latter is something which we may all make in the coming year.

Current Comment.

THE RUBRO-OLIVO-DENTATE TRIANGLE.

THE anomalous shape and position of the olivary body have always captured the imagination of neurologists, whilst a certain morphological resemblance to the dentate nucleus appeals immediately to the eye and suggests functional kinship. Spatz emphasized the view that the red nucleus and the dentate nucleus possess intimate interconnexions and together constitute an important extrapyramidal system.[1] Teizo Ogawa has once more put forward his hypothesis that the olive is included in this system and that in the human being the triangle, red nucleus and olive ipsilateral, and dentate nucleus contralateral, represents a definite unit of considerable significance in the normal and pathological activity of the brain stem.[2] He admits that the existence of easily demonstrable intercommunicating fibres between olive and dentate has been challenged and that the more obvious olivo-cerebellar tract is projected on to the cerebellar cortex; but he puts forward some pathological evidence to prove that a direct intercommunication between these convoluted nuclei actually exists.

The view that the olives can play a major part in extrapyramidal motor activities was strongly advocated by Nathalie Zand,[3] who went so far as to find in these nuclei the dominant centre in the production of so-called decerebrate rigidity. According to Ogawa the triangle varies in the lower animals with respect to the dentate nucleus which is represented by the *nucleus lateralis* or *interpositus*, and also with respect to the red nucleus whose function is exercised by other diencephalic or mesencephalic masses of grey matter. Nevertheless, a definite triangle exists and displays the same integration of function. So far there has been little clinical application of this theory, but velo-palatine myoclonus which may extend in severe cases to the muscles of the eye, face and neck and even to the diaphragm is claimed as directly due to a solution of continuity in this neural triangle.

SULPHONAMIDE DRESSINGS.

AN increasing number of reports dealing with the local application of sulphonamide compounds when used in conjunction with oral administration make it certain that considerable advantage is to be secured in war and civil surgery from this procedure. Soon after the sulphonamides established themselves, "Prontosil" solutions, gargles and lotions were quickly and unscientifically applied to local lesions, with anomalous results. Later sulphanilamide ointment was introduced as a treatment for burns and still has its advocates. After the events of 1940 abundant opportunity arose for a trial of sulphonamide compounds in powder form to the depths of excised wounds.

Major King described from memory in *The British Medical Journal* of February 15, 1941, his results before and after the evacuation of Dunkirk in the treatment of open wounds by sulphanilamide pack. After complete excision of all dead and discoloured muscle fragments and complete hæmostasis, he introduced sulphanilamide powder into every corner and pocket of the wound. He found introduction by a large Volkmann spoon more successful than insufflation, but in the end the best method proved to be the introduction and crushing *in situ* of a sulphanilamide half-tablet between the blades of a Spencer Wells hæmostat. A total of 20 grammes of the drug was never exceeded. The wound was then covered with "Vaseline" gauze and the edges were partially drawn together with adhesive strapping. No further treatment was undertaken until the fifth day, when the wound was dressed and delayed primary suture undertaken. Patients thus treated within a few hours of receipt of their wounds made uniform and satisfactory progress. Infected wounds seen at a later stage also improved rapidly and showed much less evidence of toxic absorption than a control series treated by flavine packs. King considers that the drug acts both locally and by absorption. The local effect is greater and he advises packing each of multiple wounds.

[1] *"Anatomie des Mittelhirns"*, by H. Spatz, *Bumke-Foersters Handbuch der Neurologie*, Volume I, 1935.
[2] *Japanese Journal of Medical Sciences*, Part I, Anatomy, July, 1941.
[3] N. Zand: *"Etude expérimentale sur la rigidité décérébée"*, *Archives Néerlandes de Physiologie*, Volume XIX, 1934, page 166.

F. Hawking[1] has conducted an interesting series of experiments in order to discover which sulphonamide preparation diffuses the most rapidly through a wound, and has actually measured the concentration of several members of this series after introduction into one end of an artificial tubular wound made in the back of the rat. Inside one end of the wound was placed a moist swab impregnated with 0·2 gramme of the sulphonamide compound. A barrier swab was placed in the middle and inside the opposite end was placed a swab for the purpose of sampling. The animals were killed at various intervals and the concentration of sulphonamide in the sampling swab was estimated chemically. Results showed that the compounds diffused in order of their solubility in serum. Sulphanilamide travels quickly from one part of the wound cavity to another, and will even diffuse slowly through dead tissue. All other compounds produce lower concentrations in the distal part of a wound in the following order of diffusibility: sulphathiazole, sulphanilylguanidine, sulphadiazine and sulphapyridine. None will penetrate more than two millimetres into living tissue, presumably because the drug is rapidly carried off in the capillaries. Hawking's observations do not negative the importance of actually placing the powder in all crevices of the wound; the fact that there is no penetration of tissue bearing an active circulation shows the importance of simultaneous oral sulphonamide therapy. Since some absorption must occur from the wound, it is desirable to follow the actual blood concentration of sulphonamide by the simple chemical test now available.

Sulphanilamide has the advantage of cheapness, high local concentration and greater powers of penetration and diffusibility, but has also the disadvantages of rapid disappearance from the wound and of lower bacteriostatic activity. Sulphathiazole is more expensive and possesses a lower power of concentration and diffusibility, while sulphapyridine is so slightly diffusible that it may act merely as a foreign body. Probably a mixture of 80% sulphanilamide and 20% sulphathiazole would prove the best for topical use. It is interesting to note that sulphanilamide, which has in so many instances given place to sulphapyridine, should now be favoured for a purpose which unfortunately will require a potentially enormous supply.

AN OSLER MEMORIAL BUILDING AT PHILADELPHIA.

WHEN the American Society of Clinical Pathology met at Philadelphia in 1931 interest centred round what was known as the Old Post House at Blockley, as the Philadelphia General Hospital was colloquially called. The Old Post House was a small building in which Osler, while Professor of Clinical Medicine in the University of Pennsylvania, used to conduct post-mortem examinations and demonstrate the findings to students. Dr. Kenneth M. Lynch at the annual dinner of the American Society of Clinical Pathology in 1931 suggested that what he called "this little old shrine of ambition and hard work" should be preserved as a memorial. It was resolved that this should be done and in the issue of the *Bulletin of the History of Medicine* for June, 1941, the story of the dedication of the memorial on June 8, 1940, is told.

After the building had been set aside to be a memorial nothing was done for several years and it was for some time used as a paint shop for the hospital. Eventually the interest of Messrs. John Wyeth and Brother, Incorporated, was secured and this well-known American firm offered to restore the old building and to present a painting "Osler at Old Blockley" that it might be hung on the walls. The offer was accepted and, as already stated, the dedication ceremony took place in June, 1940. The Old Post House has now been named the Osler Memorial Building. The autopsy room has been restored so that it appears as it was in Osler's day. The original table, desk and cabinet are in place and the old record book with descriptions of autopsies in Osler's handwriting is there. It is on the walls of this room that the painting "Osler at Old Blockley" hangs. The artist, Jean Cornwell, has shown Osler, accompanied by his uniformed students, seated at the bedside of an old lady in the hospital grounds in the shade of a large tree. "He offers words of hope to the patient followed by some philosophical observations for the benefit of the students." The other rooms in the building will be used for museum purposes. Messrs. John Wyeth and Brother have served the history of medicine well in their generous act. We can well imagine that students at the University of Pennsylvania will be stimulated by having before them for all time the memorial of this famous teacher. Medical visitors also from distant places will visit the memorial in years to come. Like the Osler Memorial Library at McGill University, Montreal, it will serve to keep green the memory of one whose life was an incentive to the study of medical science and the service of humanity.

[1] *The Lancet*, June 21, 1941, page 786.

British Medical Association News.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on September 15, 1941, at Sydney Hospital. The meeting took the form of a number of clinical demonstrations by members of the honorary staff of the hospital.

Aplastic Anæmia after Eighteen Months' Treatment.

DR. E. H. STOKES showed a man who had been presented at a previous meeting of the New South Wales Branch of the British Medical Association a year earlier. He was suffering from aplastic anæmia, for which he had been treated by means of transfusions of citrated blood. In all he had received 51 transfusions. His general condition had shown considerable improvement and the blood count on August 30, 1941, gave the following results: the erythrocytes numbered 4,260,000 and the leucocytes 3,400 per cubic millimetre; the hæmoglobin value was 85% (11·8 grammes *per centum*) and the colour index was 1·0; the hæmoglobin content of the erythrocytes was full, anisocytosis was slight, and an occasional macrocyte was seen; of the leucocytes, 30% were neutrophile cells, 65% were lymphocytes, 2% were monocytes and 3% were band forms; no eosinophile cells were seen. On September 6 the hæmoglobin value was 88% (12·3 grammes *per centum*) and on September 13 it was 73% (10·0 grammes *per centum*). A chart showing the alterations in the erythrocytes, hæmoglobin value and leucocytes was prepared by Dr. Helen Tooth.

Parkinsonism followed from Inception Eighteen Years Earlier.

Dr. Stokes then showed a man, aged thirty-seven years, who had been treated by him in 1923 for a disease which was considered to be influenza. After the acute attacks had subsided it was noted that he was suffering from diplopia, tremor of the left arm and paresis of the left side of the face. In 1926 Dr. George Bell had performed a left-sided cervical sympathetic ramisection. The operation had effected no improvement. Various methods of treatment had been employed, including a course of hyoscine hydrobromide, tincture of stramonium and sedatives. The patient's condition had remained unchanged.

Skiagrams showing Rapid Spread of Pulmonary Tuberculosis.

Dr. Stokes next showed skiagrams of a man, aged fifty-four years, suffering from pulmonary tuberculosis. Rapid spread of the disease had occurred during a period of twelve months.

Electrocardiograms.

Dr. Stokes finally showed a series of electrocardiograms illustrating arrhythmia. The records showed included sinus arrhythmia; paroxysmal, auricular, nodal and ventricular tachycardia; and auricular, nodal and ventricular extrasystoles, and auricular flutter.

Plumbism.

DR. T. E. H. SPARK showed a male patient, aged fifty-eight years, who had been admitted to hospital from the out-patient department on September 4, 1941, suffering from severe pain in the muscles and joints of his extremities, together with colicky pain in the abdomen, not localized to any one area. His present condition had appeared rather suddenly some days prior to his admission to hospital; but the man gave a history of having been employed as a painter for twenty years and of having been in hospital in 1937 and early in 1941 suffering from chronic lead poisoning. He also said that he had not been employed (and, therefore, not exposed to lead) since January, 1941. His health had been reasonably good for some months prior to his admission to hospital; but some weeks earlier he had developed a coryza with troublesome cough, and to this he attributed his present symptoms.

On examination he was found to have a bilateral paresis of his hands of the Aran-Duchenne type, with conspicuous wasting of the interossei and short muscles of the thumb and fifth finger. He also exhibited an almost complete loss of sensation in both legs from the level of the tibial tuberosity down to his toes. There was no paresis of the lower extremities and the reflexes were normal. Examination of the *fundi oculorum* and blood pressure revealed no departure from the normal.

The blood count on September 16, 1941, revealed no stippled cells, and the results were in all respects within normal limits. The urine contained 0·11 milligramme of lead per litre; but no casts were present, and renal function as estimated by the urea clearance and urea concentration tests was normal. On his admission to hospital the patient had been treated by intravenous injections of 10% calcium gluconate solution and by atropine administered hypodermically; this treatment had rapidly brought his symptoms under control, and he was now continuing on a diet rich in calcium.

Dr. Spark explained that the most interesting features of the case were the sudden exacerbation of acute symptoms almost eight months after the patient's last exposure to lead, and the presence of sensory loss in the lower limbs. He suggested that the acute symptoms might have been due to the patient's taking for his cough an expectorant mixture, which was thought to contain potassium iodine. This might have mobilized sufficient lead into his circulation to precipitate the reappearance of acute symptoms. With regard to the loss of sensation in the lower limbs, it had been suggested that he might have had a true peripheral neuritis from lead affecting his sensory nerves. Dr. Spark, however, was not convinced as to the existence of a true sensory nerve lesion, and he indicated that further careful observation and investigation would be required to establish its presence. He explained that localized anæsthesia was quite uncommon in chronic plumbism, and in this case the distribution of sensory loss was not easily correlated with anatomical knowledge.

Hæmophilia.

Dr. Spark also showed a male patient, aged eleven years, who had been known to suffer from hæmophilia since the age of five years. He had had a number of severe hæmorrhages following dental extractions and other trivial injuries during the preceding six years, and on many occasions had required blood transfusion. His brother had also suffered from hæmophilia and died from hæmorrhage following tonsillectomy some years previously, and his mother's brother was also known to have had the disease. He had no sisters, and no members of his father's family were known to be similarly affected. The patient had been admitted to hospital because of the appearance of a large spontaneous hæmorrhage into the muscles of the left calf and popliteal fossa. The area affected was extremely tense and swollen and exquisitely tender. It was also œdematous and hot, and the limb was held in the position of flexion.

Dr. Spark remarked on the typical family history in this case, the disease appearing in the males and being transmitted by the females. It was also noted that the condition of spontaneous hæmorrhage into the tissues closely resembled the superficial appearances of deep suppuration. He had seen another case of hæmophilia in which spontaneous hæmarthrosis affecting the elbow had so closely simulated a suppurating olecranon bursitis that the boy narrowly averted death at the hands of a surgeon. Dr. Spark remarked that fortunately the majority of such subjects were well aware of their own disability, and surgical catastrophes were therefore usually avoided.

Malignant Disease.

Dr. Spark's third patient was a male, aged fifty-eight years, who had appeared for the first time at his out-patient clinic on the afternoon of the meeting. Unfortunately there had been no opportunity for the carrying out of special investigations, and Dr. Spark explained that he had been tempted to discuss the case without the assistance of the pathologists and radiologists, because of its great clinical interest. The patient gave a history of having been in good health until about one month previously; since then he had suffered from progressive loss of appetite and shortness of breath together with widespread pain in his limbs. He had lost ten pounds in weight in the preceding month, but had had no headaches and no visual or urinary symptoms.

On examination he was found to be a prematurely old man, showing a marked degree of emaciation and generalized brown pigmentation of the skin, which was more conspicuous at the flexion creases, nipples and scrotum. The mucous membranes, however, were extremely pallid and showed no signs of pigmentation. Large masses of glands were palpable in both inguinal regions, smaller masses in both axillæ, and several discrete glands in the posterior triangles of the neck. The spleen was not palpable, but the lower border of the liver could be felt about three-quarters of an inch below the costal margin. The blood pressure was found to be 140 millimetres of mercury systolic and 85 diastolic. Apart from these points, the systemic examination revealed no gross abnormalities, other than a fairly large, hairy, pigmented mole over the right deltoid, which the patient stated was present at birth.

Dr. Spark explained that in the consideration of the diagnosis many possibilities had to be thought of; but the most likely were lymphadenoma, lymphosarcoma and lymphocythæmia, although one could not overlook the possibility of generalized melanomatosis.

DR. EDGAR STEPHEN remarked on the resemblance of the patient's pigmentation to that found in Addison's disease, and suggested the possibility of tuberculosis of the adrenal bodies, with widespread tuberculous adenitis.

DR. E. H. STOKES also commented on the possibility that pulmonary tuberculosis might produce just such phenomena as were observed in this case.

Dr. Spark expressed regret that he had been unable to have had the case fully investigated prior to the meeting, for it was apparent that finality in diagnosis could not be achieved by purely clinical methods.

Diabetic Gangrene.

DR. W. L. CALOV AND DR. F. HALES WILSON showed a number of patients from the diabetic clinic of the hospital. These patients were shown with the object of stressing the importance of the care of the feet in diabetes. Gangrene was the result of obliterative changes in the arteries. It was most apt to occur in the feet, because there the circulation was more likely to be impeded and because the feet were very liable to minor injury, such as abrasions. In many cases the site of gangrene was determined by trauma, complicated or not by bacterial infection. An abrasion by a faulty sock or ill-fitting shoe was sustained, or perhaps damage was caused by the injudicious cutting of a corn. The injured tissues, which were already impoverished, were unable to regain their vitality. If bacteria gained access through the broken surface, the pressure of the resulting inflammatory exudate, added to the obliterative vascular changes already present, was sufficient to cut off the blood supply.

Once vascular degenerative changes had taken place, control of the diabetic state would not necessarily prevent gangrene. Once gangrene had occurred, the most careful treatment for the diabetes would not prevent its spread nor the occurrence of other areas of gangrene. One of the patients shown had been afflicted with gangrene of the great toe, the little toe and the heel since her admission to hospital for treatment of gangrene of the ball of the foot. It might be noted that the *dorsalis pedis* artery often had quite good volume and pulsated vigorously. It was most important in treatment to keep the lesions as dry as possible and so to discourage the multiplication of bacteria. A useful dressing was acriflavine and methylated spirit. One of the patients was suffering from carotinæmia, the result of a too strenuous indulgence in vegetables.

Thyreoid Disorder and Diabetes.

Dr. Calov and Dr. Wilson then showed a woman, aged thirty-four years, who had suffered for many years from thyreotoxicosis. She had the classical symptoms of loss of weight, tachycardia, exophthalmos and tremor. At the same time she had a profound disturbance of carbohydrate metabolism. She was submitted to operation, with excellent results. Her weight increased by one and a half stone within a month or so after operation. She required treatment with thyreoid extract to combat her myxœdema. The basal metabolic rate, estimated some months after operation, was −35%. She was progressing favourably with large doses of insulin.

Glucose Tolerance Tests.

Dr. Calov and Dr. Wilson also showed a series of charts illustrating the results of the glucose tolerance test in diabetes and other conditions.

Congenital Torticollis.

DR. C. E. WINSTON presented three patients with congenital wry-neck or torticollis treated by operation. Their respective ages at the time of operation were five, eleven and fourteen years. Although no definite information was obtained as to birth injuries, in each case the parents had noticed some deformity in the first two years of the child's life. All three patients presented a well-advanced degree of torticollis at the time of operation. The low operation, immediately above the sterno-clavicular insertion, was performed in each case; both heads of the muscle were completely severed as well as the sheath of the muscle. In the cases of the two elder children, one a female, this procedure was carried out subcutaneously from the lateral border of the muscle through a transverse incision three-eighths of an inch long. In the case of the child aged five years an open operation was performed by a transverse incision over the muscle along the upper border of the clavicle. In each instance the muscle was severed from the lateral to the medial direction and from its deeper surface; great care was necessary in this part of the operation, as the internal jugular vein was situated immediately deep to the lateral edge of the muscle and was easily wounded if not protected by a director or if too much tissue was picked up in the forceps. After all the soft tissue had been severed the head was then manipulated so as to correct the deformity, all bleeding points were ligated and the wound was closed.

On regaining consciousness the patients were carefully fitted with a leather Glisson's sling; a cord from this was taken through the head of the bed to a fixed pulley on the wall, and three to five pounds' weight was added; at the same time the head of the bed was raised six inches. Corrective exercises under the guidance of a masseuse were instituted and the patient remained in bed for three weeks. The exercises were continued for several weeks after the patient left hospital.

Dr. Winston showed photographs taken before and several months after the operation in each instance. These were exhibited with the patient, and in each case a satisfactory result was evident; the corrected position had been maintained, the facial asymmetry was minimal, the scoliosis had been corrected, and in the two instances in which the operation had been performed subcutaneously there was no evidence of any scar. Dr. Winston said that he had performed the subcutaneous operation on three other children with equally satisfactory results. The after-treatment carried out in the cases under discussion was much more comfortable than treatment by a plaster cast, and the results were equally good.

Renal Pain Simulating Appendicitis.

Dr. Winston also showed X-ray films of three patients who had been admitted to hospital for operation with the diagnosis of recurrent appendicitis. As the history was vague and the physical examination revealed no definite abnormality, and as in two instances mild renal symptoms were present, it was decided to investigate the renal tracts by retrograde and intravenous excretion pyelography. Positive findings were obtained in each instance. One patient had a translucent calculus in the lower part of the ureter, the second had a double renal pelvis and double ureter extending to within an inch of the bladder, and the third patient had dilatation of the pelvis and calyces of the right kidney with some narrowing of the lower end of the ureter. After appropriate treatment of the renal condition the pain on the right side had not reappeared.

Arterio-Venous Fistula.

DR. S. L. SPENCER showed two patients with arterio-venous fistula. One had received no treatment, while the other had been operated on by Dr. George Bell. The first was a lad, aged sixteen years. Three years previously a 0·22 calibre rifle bullet had passed through the lower third of the left thigh. Since about five weeks after the accident the patient had been conscious of a "purring" sensation above the left knee and there had been some swelling and some prominent veins in the left lower extremity below the site of injury. These local changes had not worried the patient, nor had he been conscious of any effect on his general health. He had played football until he accidentally burned his left leg three months before the meeting. The resulting burns were still unhealed and it was this fact which had caused the patient to seek medical advice.

On examination the patient presented the usual local features of a thrill and bruit, and some œdema and dilated veins were found distal to the injury. No tumour was palpable at the site of the fistula, and the condition was considered to be an aneurysmal varix rather than a varicose aneurysm. Dr. Spencer emphasized that in the former condition the local effects and dangers were relatively slight and that they were unimportant in relation to the influence which an arterio-venous fistula or "shunt" exerted on the cardio-vascular system. Small fistulæ were compatible with long life and negligible ill effects. Large fistulæ, on the other hand, overloaded the left ventricle in a manner roughly comparable with the action of an aortic regurgitation. In both conditions the output of the heart had to be increased to allow for the loss to the peripheral circulation of a proportion of the arterial blood; in some reported cases the blood lost was estimated to amount to from one-fifth to one-half of the total output. The only practicable treatment for an aneurysmal varix was surgical intervention, and in assessing the indications for and against surgical treatment in any particular case it was necessary to form an idea as to the size of the fistula and the likelihood of the heart's becoming damaged by overwork. In the case under discussion physical examination and laboratory investigations suggested that the heart was being grossly overworked. The apex beat was abnormally forcible, and the area of cardiac dulness extended beyond the nipple line. The blood pressure was 140 millimetres of mercury systolic and 70 millimetres diastolic. On compression of the femoral artery on the affected side, the loss of arterial blood into the venous system thereby being stopped, the pulse rate slowed down from 74 per minute to 55. This phenomenon was known as Branham's bradycardiac sign. Compression of the femoral artery on the normal side had little or no effect on the pulse rate. X-ray examination of the chest revealed pronounced cardiac enlargement and congestion of the lung fields. Estimations of cardiac output before and after operation were to be performed by Dr. F. S. Cotton, at the department of physiology of the University of Sydney.

The second patient shown by Dr. Spencer was a man, aged thirty years, who thirteen years before had sustained a bullet wound in the lower part of the left thigh. The site of injury, physical signs and laboratory test results were almost identical with those described in the first case. On compression of his left femoral artery the pulse rate had slowed from 76 to 52 per minute. Seven months prior to the meeting an operation had been carried out by Dr. George Bell, who had performed a quadruple ligature of the main vessels (ligation of the artery and vein above and below the lesion) and had excised the fistula. The patient had complained of palpitation before the operation, but was now free from cardiac symptoms. His leg was no longer swollen and the result of treatment appeared to be completely satisfactory. Dr. Spencer emphasized that the condition of arterio-venous fistula, whilst always of interest, assumed in the present emergency an increased importance, as it was likely to be encountered more frequently than in peace-time.

Pathological Exhibits.

DR. REGINALD BRIDGE showed two kidneys removed at operation. In the first there was a large papillary carcinoma of the renal pelvis, and in the other a large hypernephroma of the upper pole. Dr. Bridge said that the first patient had a history of two attacks of symptomless hæmaturia; the second patient had had symptomless hæmaturia for one month. Diagnosis was achieved by the detection of a filling defect in the pyelogram. The operation on the first patient, who had the papillary carcinoma of the renal pelvis, was carried out in two stages. First, the kidney and as much of the ureter as could be reached from a lumbar incision were excised. Dr. Bridge said that the removal of the remaining portion of the ureter was made easier if, at the first operation, the ureter was removed down to, and just below, the internal iliac vessels. He recalled a similar case in which this had not been done, and the proximal stump of the ureteric remnant was found to be adherent to these vessels; this fact rendered the operation dangerous. At the second stage the remainder of the ureter was removed down to the bladder. In these papillary growths of the renal pelvis it was essential to remove the whole ureter. In this case about one month had been allowed for convalescence between each operation. Both the patients were extremely obese, and the operations were greatly facilitated by the use of spinal analgesia, which produced maximum relaxation of abdominal muscles.

Dr. Bridge also showed a large renal calculus weighing three and a half ounces, which formed a complete cast of the renal pelvis and calyces. The kidney was destroyed and infected. Nephrectomy was performed. The operation was

extremely difficult owing to the magnitude of the stone and the adherence of the pelvis to the posterior part of the peritoneum and the *vena cava*. Dr. Bridge said that often these large calculi filling the pelvis and calyces produced minimum localizing symptoms. The patients often presented themselves complaining of lassitude and anorexia, with little lumbar pain or bladder discomfort. Often, too, these patients complained of gastric symptoms, and it had been his experience that many were treated with alkaline powders for months and even years for gastric or duodenal ulcer.

Dr. Bridge then showed a large calculus removed from the bladder by suprapubic cystostomy. He said that although the stone was much too large for litholapaxy, a great number of bladder stones, formed as a result of bladder neck obstruction, could and should be removed by crushing with a lithotrite. The cause of these stones, obstruction and infection, should of course receive attention.

Bilateral Renal Calculi.

DR. A. C. TELFER showed a girl, aged twenty-five years, suffering from bilateral renal calculi. There were many stones, both large and small, in both kidneys, and the right kidney was much enlarged. The patient had first attended the out-patient department on August 14, 1941, complaining of a dull ache in the right loin, present intermittently for one year; it had increased in severity and had been accompanied by vomiting after breakfast for the last two weeks, and by anorexia, loss of weight and increasing tiredness at night after work. The urine contained mucopus, and microscopic examination revealed numerous triple phosphate crystals and some pus cells. Gram-positive cocci and Gram-negative bacilli were seen in a stained film, and the culture grew coliform bacilli only. The urea clearance was 16%. There was no evidence of deficiency in calcium metabolism. Dr. Telfer pointed out that the problem was difficult because of the poor urea clearance. He thought that no operative procedure would improve the prognosis. The surgical attack on bilateral renal stones had in recent years improved, owing to the use of radiography at operation.

Bilateral Polycystic Disease.

Dr. Telfer also showed two pyelograms demonstrating bilateral polycystic disease. The first patient, a man, aged forty-four years, had first attended the out-patient department on August 1, 1940, complaining of severe hæmaturia of three days' duration. He had previously had hæmaturia about twelve months earlier. Both kidneys were palpable. At cystoscopic examination no indigo-carmine was excreted from either kidney in twenty-one minutes. Bilateral pyelography revealed large polycystic kidneys with the classical finger-like lengthening of infundibula. The results of the urea clearance test were as follows: blood urea nitrogen, 63 milligrammes per 100 millilitres; blood creatinine, 4 milligrammes per 100 millilitres; urine before urea 0·8%, volume 50 millilitres; urine one hour later 0·7%, volume 142 millilitres; urine two hours after urea 0·9%, volume 78 millilitres; urine three hours after urea 0·9%, volume 101 millilitres; standard urea clearance, −11% (six millilitres per minute).

The second patient, a man, was aged sixty-nine years, and had first attended the out-patient department on April 20, 1939, with symptomless hæmaturia and a tumour of the right loin. At cystoscopic examination indigo-carmine was excreted satisfactorily from the left kidney in five and a half minutes and faintly from the right kidney in seven minutes. Bilateral pyelography revealed the characteristic picture of polycystic disease. The results of the urea clearance test were as follows: blood urea nitrogen, 31 milligrammes per 100 millilitres; blood creatinine, 2·0 milligrammes per 100 millilitres; urine before urea 2·0%, volume 40 millilitres; urine one hour later 2·3%, volume 22 millilitres; urine two hours after urea 2·8%, 12 millilitres; urine three hours after urea 2·6%, volume 27 millilitres; standard urea clearance 26% (four millilitres per minute).

From the point of view of prognosis in these cases, Dr. Telfer said that it was interesting to note that the Registrar-General's office reported the death of the first man ten months and of the second man fifteen months after they had first reported to the out-patient department. Dr. Telfer said that there was no surgical or medical treatment for this disease, but it had been reported that if tension pain was present puncture of the cysts gave some relief. He thought that this was the only excuse for operation.

Carcinoma of the Bladder: Bilateral Transplantation of Ureters.

DR. KEITH KIRKLAND showed a male patient, aged fifty-six years, whose condition was described in some detail in THE MEDICAL JOURNAL OF AUSTRALIA on June 7, 1941. The patient, who had had carcinoma of the base of the bladder, had undergone total cystectomy, prostatectomy and vesiculectomy on October 18, 1940, after bilateral ureteral transplantation a few weeks previously. He was in good general condition and stated that his weight had increased by 30 pounds since the operation. His bowel tolerance had improved, and on most nights he did not have to get up to pass urine. Dr. Kirkland stressed the great advance in technique by which the transplantation of the ureters was carried out as an extraperitoneal manœuvre. He pointed out also that his impression gained from this case had led him to believe that the best method of cystectomy would be to free the bladder base and attachments by perineal approach in the first place and to conclude the operation suprapubically. The specimen removed from the patient was shown.

Nephro-Ureterectomy.

Dr. Kirkland also showed a male patient, aged twenty-three years, who for about two years before coming to hospital had suffered a great deal of left-sided pain. Cystoscopic examination in September, 1940, had revealed no efflux from the left ureteral orifice, and it had been found impossible to pass a catheter more than two centimetres into the ureter. A lower ureterogram which was shown demonstrated pronounced dilatation of the lower part of the ureter. Internal ureterotomy did not benefit the patient. On October 9, 1940, nephro-ureterectomy was carried out. The specimen, which was shown, consisted of a ureter dilated to the calibre of large intestine, with a very large pelvis and a mere shell of renal parenchyma. The patient stated that he had gained 28 pounds in weight since the operation. Dr. Kirkland explained that the lower end of the ureter had been freed completely and removed from its bladder attachment through a low oblique incision. This wound was closed. Nephrectomy was carried out by the usual lumbar incision and the ureter and kidney were removed in one mass. He could offer no explanation for the obstruction, but suggested that it was of congenital origin.

Papillary Carcinoma of the Bladder.

Dr. Kirkland also showed the pyelogrom and left kidney of a man, aged seventy-one years, who had had gross hæmaturia some months after prostatectomy. In the kidney pelvis there was a large papillary carcinoma. The patient's recovery had been uneventful.

VICTORIAN BRANCH NEWS.

SEX EDUCATION IN SCHOOLS.

THE following statement on sex education in schools is published for the information of members at the request of the Council of the Victorian Branch of the British Medical Association.

The Council of the Victorian Branch of the British Medical Association is in favour of sex education in schools provided that:

1. It is part of a general education or enlightenment of the public on the problems of sex and of reproduction.

2. It is adapted to the stages of child development—pre-school, pre-adolescent and adolescent.

3. It is very carefully carried out with the willing cooperation of school teachers who are themselves thoroughly acquainted with the subject matter and with, perhaps, for certain parts of the teaching, the training of an adequate number of specialist teachers of both sexes, with adequate salary and status, who would go from school to school.

A. Pre-School.—Sex education begins in the family in early childhood, whether intended or not, and a comprehensive programme must begin at that stage.

There is evidence that the attitude of adults towards sex and adult behaviour in this respect is to a large extent conditioned by the child's early experiences.

Harmonious development and a healthy natural attitude towards sex are determined by:

(*a*) A realistic, frank and unashamed attitude of mind in parents, and to a less extent, others in contact with the child regarding sex and allied matters, such as nudity, bladder and bowel control.

(*b*) The answering by parents and others of sex questions in a manner suited to the child's understanding and emotional requirements, and particularly the avoidance of an attitude of secrecy, fear or shame.

To achieve this, adult education in these matters will be needed. It is suggested that a variety of leaflets suitable for mothers and parents should be prepared. Such leaflets could be distributed through infant welfare centres, religious organizations *et cetera*. It is of advantage if the child lives in a family of children of both sexes. Those in charge of nursery schools and kindergartens should be thoroughly aware of and prepared to meet the child's needs and difficulties.

During this period opportunity should be taken to introduce the subject to the child on elementary biological lines.

With this background further sex education at school is desirable and should continue during adolescence and early adult life, subject to the following considerations:

1. Sex is not a subject to be "taught" like, say, algebra, but an experience to be lived, becoming at puberty more complicated and personal, and leading on to adult sex life, which should include both the personal satisfaction of husband and wife as regards their love life and, of still more importance, the having of children and the formation of a family.

2. It is obvious that the success of a programme for sex education in schools would be largely dependent upon the education of parents and school teachers in order to get their intelligent and willing cooperation.

B. Pre-Adolescent.—Throughout this phase class instruction should take a minor, but not unimportant, part. It should be given only by teachers who have made a special study of the subject and are willing to undertake it.

With pre-adolescent children of eight to eleven years the approach should be on biological lines (for example, "Growing Up", by de Schweinitz) and where possible in conjunction with general biological study. It should be mainly descriptive, commencing with animal and plant life and extending to human physiology in relation to sex and its fundamental psychological aspects. It must be done simply, clearly and with emphasis on the family and social significance of sex life. Individual questions should be encouraged and answered throughout.

C. Adolescent.—(a) During the early adolescent stage, from eleven to fourteen years, the physical and psychological changes then occurring should be fully dealt with, stressing the moral and idealistic aspect. There should be separate classes for boys and girls. During this period it is more than ever important that personal questions and difficulties should be discussed.

(b) In the late adolescent stage, from fifteen to eighteen years, instruction should continue either in school or in youth organizations, and should deal frankly and fully with adult sex life, including some of the more common abnormalities, such as homosexuality, and dangers, such as venereal disease.

Public Health.

A TRAINING SCHOOL FOR NATIVE MEDICAL PRACTITIONERS.

THE Central Medical School, Suva, Fiji, has published its annual report for 1940.[1] The aims of the school are stated as follows:

> 1. To train carefully a number of selected students as Native Medical Practitioners in order that they may carry out medical and health work in their own group of islands, and thus not only bring medical help within the reach of the large number of their own countrymen who are out of reach of other medical assistance, but also by preventive measures raise the general standard of health throughout the islands.
>
> 2. As the need arises, to provide post-graduate courses for Practitioners who have been trained at the school.
>
> 3. By working in close co-operation to inculcate the spirit of friendly relationship and assistance between the various island races in the Pacific.

How worthily the school has so far achieved its objects can be learned from the report. One hundred and four native medical practitioners have been trained during the twelve years for which the school has been in existence, and they are now practising in Fiji, Gilbert and Ellice Islands, the British Solomon Islands Protectorate, the New Hebrides, Tonga, Nauru Island, Cook Islands, Eastern Samoa and Western Samoa. It is interesting to note that a number of Indian medical practitioners are working in Fiji, and that three Indian students are in training at the school.

[1] *The Native Medical Practitioner*, September, 1941.

The course of study extends over four years, and comprises instruction in chemistry, physics, biology, anatomy, physiology, bacteriology, *materia medica*, medicine, surgery, public health and hygiene, diseases of children, obstetrics, anæsthetics, dentistry, forensic medicine and office accountancy. During 1940 numerous demonstrations in practical and clinical work were given by members of the European nursing staff and native medical practitioners on the staff of the Colonial War Memorial Hospital, and a special course of practical meat inspection was given at the abattoir. An analysis of the class prize lists for the last ten years shows that Cook Islanders have received the greatest number of prizes in proportion to their numerical strength. This is easily accounted for by the fact that Cook Islanders are trained for one or two years at Te Aute College, New Zealand, before they enter the medical school at Suva. The annual cost of maintenance of a student at the Central Medical School varies somewhat from year to year; in 1940 it was estimated at about £74. This amount covers board and lodging, tuition fees, maintenance expenses, clothing, servants' wages and pocket money (ten shillings per month per student). The four years' course of study thus costs about £300 per student, and to this amount must be added the cost of transport to and from Fiji. This varies with the student's home. It is necessary also to add a proportion of the capital expenditure for buildings and equipment, which was at the foundation of the school about £170 per student, if the total cost of training a native medical practitioner is to be estimated. "The original scheme of cooperation for the Central Medical School was drawn up during 1928 and each Administration agreed to pay for a fixed number of students each year and to pay a proportionate amount of the capital expenditure. During recent years Western Samoa has increased its quota from four to nine, and Nauru Island and Niue Island, which were not in the original scheme, have two and one student respectively. With this increase in the number of students the question of proper dormitory accommodation is becoming an acute one. The large number of Samoan students also raises a new problem, for they have their own peculiar customs and traditions." In 1940 an application for the admission of a student from Pitcairn Island received sympathetic consideration by the Central Medical School Advisory Board, and the recommendation was made that a young student should first be trained at Queen Victoria School before being admitted to the Central Medical School, and that in the meantime a suitable native medical practitioner should be seconded for service on Pitcairn Island.

The whole course is divided into four quarters, beginning on January 15 and ending on December 15. A period of two weeks' vacation is given at Christmas and again at the end of June; half the students are away for two weeks and then the other half take their holiday, so that for two periods of four weeks in each year no lectures are given. The fact that only a few students are able to go to their homes for these holidays makes the Central Medical School stand very much *in loco parentis* to the young men in its care. It is stated in the report that ". . . permission is readily given to any Samoan or Tongan student who has friends in other parts of Fiji to visit these friends during the holiday periods". When their medical course is ended, arrangements have to be made to secure the return to their homes of students from distant islands. "One travelled via Auckland and Sydney back to Nauru, and two were fortunate in getting a direct boat to Tonga. Two Samoans proceeded to American Samoa, whence they could cross over to Western Samoa by motor launch. As there was no boat available for the two Gilbertese students, arrangements were made to give them two months of practical experience in leprosy at Makogai, and the same arrangement was made also for the Solomon Islands student pending his return to Tulagi." The board considers the lists of marks at the quarterly examinations, recommends the award of certificates to newly qualified practitioners, decides the number of new students to be admitted from each participating administration, selects the new Fijian students for the following year, and makes suitable recommendations on lectures, courses of studies, regulations, disciplinary measures and improvements to buildings. Students who fail to make satisfactory progress have their studentship terminated; but this step is taken only after careful consideration. It is interesting to note that the final examinations are not all held in December, "which is one of the hottest months of the year"; they are spread over a period of four months and the results have been satisfactory. The health and general welfare of the students are considered of much importance. Regular recreations include cricket, football, boxing and table tennis, and the various teams engage in competitions with local teams. A common room and room for indoor games are considered essential, so that the students may be encouraged to spend their leisure time intelligently and not in pointless wandering about the

streets of Suva. The health of the students during 1940 is stated to have been good, with the exception that one student from the Solomon Islands died after an illness of five months' duration.

Each of the new first year students was given a thorough medical examination on admission. As in former years, all the students, if not already protected, were vaccinated against smallpox and inoculated against typhoid fever. The majority of the students have already received anti-yaws injections prior to admission, and any who after arrival in Fiji were found to give a positive Kahn test were given additional treatment. During the twelve years that the Central Medical School has existed six cases of pulmonary tuberculosis have occurred either among the students themselves or during the first years after their graduation. This incidence is no greater than the corresponding rate in European medical schools.

It is stated that discipline is good throughout the school and that "although the war has had little effect on the general progress of this Medical School there is no doubt that some of the more impressionable students in the second year were adversely affected by the disturbed conditions".

Correspondence.

PROBLEMS IN THE THERAPY OF ULCERATIVE GRANULOMA.

SIR: I read with interest Dr. Nimmo's remarks on ulcerative granuloma in the current issue of THE MEDICAL JOURNAL OF AUSTRALIA and regret that I gave the impression that the disease was unknown in Australia. The fact that it occurs in northern Australia is, of course, well known and is recorded in the text-books of tropical medicine.

What I had intended to indicate was the possibility of imported cases occurring in white Australians returning from areas where the disease abounds. According to Poynton (THE MEDICAL JOURNAL OF AUSTRALIA, Volume I, Number 13, March 29, 1941, page 373), Malaya would be such an area. Imported cases of this type are by no means uncommon in the wards of seamen's hospitals in the United Kingdom.

In the West Indies, where I made a study of the condition, the reservoir of the disease lies among the poorest members of society, among whom, naturally, prostitution flourishes. Patrons of these unfortunates carry the disease into more aristocratic circles. Is it possible that, as far as northern Australia is concerned, there is, sexually, between the tribal aborigine and the white man, "a great gulf fixed", so that the malady remains confined to the former group?

Like Dr. Nimmo, I find that the sufferer from this disease frequently has, in addition, one or more of the following diseases—avitaminosis, malaria, yaws and ankylostomiasis. Syphilis and chronic gonorrhœa are also frequent concomitant diseases.

Yours, etc.,

K. VIGORS EARLE.

270, Campbell Parade,
Bondi Beach,
New South Wales.
December 1, 1941.

HERPES RECURRENS.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA, September 30, 1933, page 462, Dr. H. R. P. Boucaut described a case of recurrent herpes and asked advice.

A second case was described a month later (THE MEDICAL JOURNAL OF AUSTRALIA, October 21, 1933, page 565). At that time the second patient had suffered some two score attacks, all on the back of the left thigh; there have in the last eight years been twelve or fifteen more, but recently on the right buttock; the general health continues good.

In an excellent address (THE MEDICAL JOURNAL OF AUSTRALIA, November 29, 1941) Dr. F. M. Burnet tells us of recent investigations in simple herpes (page 611). Can he say, please: (i) what is the relation of recurrent herpes to simple herpes, (ii) what can be done to prevent or relieve recurrent herpes?

Yours, etc.,

GUY GRIFFITHS.

131, Macquarie Street,
Sydney,
December 2, 1941.

THE LATE WILLIAM JAMES PENFOLD.

SIR: As one of the most intimate of Dr. Penfold's friends, I naturally heard of his death with special regret. To me he was not only a great and loyal friend, but also a guide of singular clarity of mind. All those who have paid tribute to Dr. Penfold have remarked on his uncompromising honesty and his passion for truth. These qualities were not merely conventions of speech, but were woven into the pattern of his life, and there is now no need to hide the fact of his unpopularity on account of these very qualities. Now Penfold's honesty was not of the kind that rests solely on sincerity; he was honest in the only real way—with his remarkable insight and critical faculty he probed deeply and read widely on whatever subject he presumed to hold opinions about. To sincerity he added knowledge. Those who knew Penfold well would agree that his was the finest critical mind in medicine in Australia in his time, and even if he had not made the valuable contributions to science that he actually did, his stimulus alone as a critical intellect of the highest order would have made him memorable in the history of medicine in this country.

As I pointed out in this journal at the time of Penfold's retirement, he gave Australian bacteriology a new impetus and a sure place in international medicine. As a bacteriologist he had no superiors and few equals in this or any other country. And one other valuable work he did was to stimulate the publication of scientific papers and books. Of the very numerous publications that came from the pens of his staffs, all of value, two have become classic masterpieces, namely, Willis's "Spread of Tumors" and Miss Butler's "Blood Culture". Without Penfold they would have been written, but not in their superlatively good form. I regret the loss of a great man.

Yours, etc.,

J. V. DUHIG.

Ballow Chambers,
Wickham Terrace,
Brisbane, B.17.
December 7, 1941.

Naval, Military and Air Force.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 247, of December 4, 1941.

AUSTRALIAN IMPERIAL FORCE.

Australian Army Medical Corps.

To be Lieutenant-Colonels.—Major N. W. Francis and is appointed to command an Australian Special Hospital, and Major (Temporary Lieutenant-Colonel) A. L. Dawkins, 8th October, 1941.

Permanent Supernumerary List.

Captain T. K. Abbott is transferred from Australian Army Medical Corps, 20th September, 1941.

The undermentioned officers are transferred from Australian Army Medical Corps from the dates shown: Major J. D. Palandri, 9th September, 1941; and Captains L. P. Sapsford, 5th September, 1941; A. G. G. Carter and M. Mayrhofer, 9th September, 1941; and W. H. B. Palmer, 2nd October, 1941.

AUSTRALIAN MILITARY FORCES.

AUSTRALIAN ARMY MEDICAL CORPS.

Seventh Military District.

Captain (provisionally) A. R. Scott-Orr is transferred from Australian Army Medical Corps, 2nd Military District, 9th November, 1941.

Northern Command.

First Military District.

Captain (provisionally) L. S. Davies and Captains G. S. Hayes and H. Crawford are appointed from the Reserve of Officers (A.A.M.C.), 18th October, 1941, 21st October, 1941, and 30th October, 1941, respectively.

The following officers are appointed from the Reserve of Officers and to be Captains (provisionally): Honorary Captains A. D. Isles, 1st October, 1940; L. T. Moran, 24th September, 1941; C. K. Haskard, 2nd October, 1941; and G. K. Hawkins, 18th October, 1941.

To be Lieutenant-Colonel (temporarily).—Major H. M. Saxby, 25th October, 1941.

To be Major (temporarily).—Captain (provisionally) R. Grant, 3rd November, 1941.

To be Captains (provisionally).—Neville Beaumont Wilmer and John Arthur McKelvey Shera, 30th October, 1941.

To be Honorary Captains.—Warwick Arrowsmith and Ian Gavin McPhee, 30th October, 1941, and Thomas Keep Durbridge, 3rd November, 1941.

Eastern Command.

Second Military District.

The following officers are appointed from the Reserve of Officers and to be Captains (provisionally): Honorary Captains N107602 J. F. Boag, 23rd June, 1941; N280493 S. Lackey, 13th October, 1941; N280186 S. D. Foley, N280187 J. F. Ireland, 14th October, 1941; N280365 A. G. Moffit, 15th October, 1941; and A. R. Scott-Orr, 20th October, 1941.

Captain (provisionally) B. T. Mayes is transferred from 1st Military District, 30th May, 1941.

The resignation of Captain (provisionally) A. R. Robinson of his commission is accepted, 31st October, 1941.

To be Captain (provisionally)—N280088 Kenneth Archibald Barr, 20th September, 1941.

Southern Command.

Third Military District.

The resignation of Captain (provisionally) J. R. McCoy of his commission is accepted, 14th October, 1941.

Fourth Military District.

The date of appointment from the Reserve of Officers of Captain (provisionally) (now Temporary Major) T. A. B. Jones which appeared in Executive Minute No. 136 of 1941, promulgated in *Commonwealth Gazette* No. 149 of 1941, is amended to read "6th November, 1940".

The following officers are appointed from the Reserve of Officers (A.A.M.C.), and to be Captains (provisionally): Honorary Captains G. H. Solomon, 29th May, 1940; R. H. Elix, 21st August, 1940; I. S. Magarey, J. H. Petchell, R. L. Verco, N. H. Munday, K. S. Hetzel, R. C. Bassett and L. W. Linn, 6th November, 1940; R. J. Salts, G. L. Bennett, M. G. Gratton, W. F. Joynt and R. M. Hains, 17th May, 1941; and L. S. Wallman, 17th September, 1941.

The date of appointment to the Reserve of Officers of Honorary Captain W. F. Joynt which appeared in Executive Minute No. 135 of 1941, promulgated in *Commonwealth Gazette* No. 149 of 1941, is amended to read "16th May, 1941".

To be Honorary Captain.—Richard John Salts, 12th February, 1941 (in lieu of the notification respecting the appointment of Honorary Captain John Salts, which appeared in Executive Minute No. 84 of 1941, promulgated in *Commonwealth Gazette* No. 96 of 1941).

Sixth Military District.

The provisional appointments of Major J. B. Hamilton and Captain A. D. Johnston are confirmed.

Western Command.

Fifth Military District.

Honorary Major F. T. Beamish is appointed from the Reserve of Officers (A.A.M.C.) and to be Major (provisionally), 3rd November, 1941.

Honorary Majors J. G. Hislop, H. B. Gill, W. R. G. Frayne, R. D. McK. Hall and J. P. Ainslie are appointed from the Reserve of Officers (A.A.M.C.) and to be Captains (provisionally) and Majors (temporarily), 5th November, 1941.

To be Majors (temporarily).—Captains (provisionally) J. L. Day, D. D. McGowan, C. Fortune and A. D. Smith, 5th November, 1941.

Honorary Captains W16416 G. L. Myles, H. J. C. Hanrahan, W16448 T. Morris and W16453 O. W. Mater are appointed from the Reserve of Officers and to be Captains (provisionally), 3rd November, 1941.

ENROLMENT OF MEDICAL PRACTITIONERS.

SOME doubt apparently exists regarding the liability of medical practitioners to enrol for military service.

It is pointed out that under the provisions of the *Defence Act* those required to enrol include all male inhabitants of Australia who are of the ages of eighteen years and upwards but under forty-five years and unmarried or widowers without children, and also those of the ages of eighteen years and upwards but under thirty-five years who are married or widowers with children. The decision regarding the claim of any man to be in a reserved occupation rests with the man-power officers after his enrolment. Any medical practitioner within the stated categories who has failed to enrol should do so immediately.

The Royal Australasian College of Physicians.

EXAMINATION FOR MEMBERSHIP.

THE next examination for Membership of the Royal Australasian College of Physicians will be held in March and April, 1942. On this occasion, for the convenience of candidates, the clinical portion of the examination will be conducted in both Sydney and Adelaide.

By-law 10, Section II, states:

The examination for Membership of the College shall consist of:

(1) A paper on the Principles and Practice of Medicine, including Pathology, Therapeutics and the History of Medicine.

(2) An oral examination, which may include the clinical examination of patients, together with the identification of naked-eye and microscopic specimens.

The dates upon which the examination will be held are as follows: written examination (capital cities), Saturday, March 14, 1942; clinical examination (Sydney), Saturday, April 11, 1942; clinical examination (Adelaide), Thursday, April 16, 1942. Application forms may be obtained from the office of the College, 145, Macquarie Street, Sydney, and should be in the hands of the Acting Honorary Secretary at this address not later than Saturday, February 14, 1942.

Obituary.

ARTHUR PAUL GILLESPIE.

WE are indebted to Dr. G. A. Buchanan for the following account of the late Dr. Arthur Paul Gillespie.

On behalf of myself and innumerable others I would like to express the sorrow felt at the passing of Dr. Arthur Paul Gillespie, late of Goulburn. A sad fact was that he was buried on what would have been his sixty-fourth birthday. Goulburn was Dr. Gillespie's native town, where his father Charles Gillespie was for many years a leading citizen and manufacturer. His mother was a remarkably fine woman and was beloved by everyone who knew her.

After graduating from the Sydney University Dr. Gillespie spent some time at the Sydney Hospital and then joined the late Dr. Fisher at Cessnock and he subsequently married Dr. Fisher's daughter. When Dr. McKillop died at Goulburn in 1910 Dr. Gillespie bought his practice and returned to settle down for life. Among other duties he acted as visiting surgeon to the Goulburn Reformatory. This work he liked, and it was a joy to visit the institution in his company and witness his efficiency, tact and kindness. He showed me many letters he received from ex-inmates, and these spoke volumes for his influence on them.

My personal friendship for Dr. Gillespie goes back to the Varsity days, for we were fellow students. I think it would be generally agreed that Gillie (as we affectionately called him) was at the university an outstanding popular personality. He was the life and soul of the common room, and nothing could upset his happy smile—not even the examiners. He was always gay and friendly. He was a good whistler and he was particularly keen on Gilbert and Sullivan tunes. He could also bring us to attention by his reciting of "The Ancient Mariner", and he had a most comic depiction of the mariner's "glittering eye". Gillie could mimic anything, and he was notorious as a *raconteur*. It is surely given to very few to be such a tonic to admiring colleagues. In those days Gillie was a very powerfully built man, and he and the late Dr. W. C. Mansfield were our great common room wrestlers. We could all reminisce for hours on Gillie's special exploits.

I was in Goulburn for about a quarter of a century with Dr. Gillespie, and I can speak with knowledge of his work as a medical practitioner. He was most thorough and painstaking, and nothing was a trouble to him at any hour of the day. He was extremely practical in diagnosis and treatment, and he had great resource in difficulties. At the same time he knew his limitations, and for that reason he was a safe and ideal general practitioner. He attended me personally through several serious illnesses, and I know what a joy it was to be one of his patients.

Dr. Gillespie did excellent surgery in Goulburn, and his merit in this respect was rewarded by his receiving the F.R.A.C.S. He was so interested in his patients as persons that he automatically applied the *primum non nocere* idea. As an obstetrician he excelled, and I was often grateful for his assistance in difficult cases. He would act quickly and well, and if patience was necessary he could be very patient.

The poor in Goulburn district will deplore his death, as he apparently never thought much about the monetary side of practice. He was also a great favourite with children, who seemed to be quite thrilled in his company.

Of late years Dr. Gillespie was greatly handicapped by a severe arthritis of one of his hips, and it was an object lesso nto see how cheerfully he put up with this trouble. When he could no longer play golf he remarked: "Thank God I can still play billiards." He was a constant attendant at the mechanics' billiard saloon. He played a very geod game and the lads were very fond of watching him play.

At Dr. Gillespie's funeral one of the leading Goulburnites remarked to me: "My word, a great light has gone out from Goulburn today." The city seemed very sad, and great sympathy was expressed for Mrs. Gillespie and for her two sons and one daughter and Gillespie's other relatives. Gillie's good influence will live on strongly in all who came in close contact with him, and he will occupy a really choice place in their memory.

Australian Medical Board Proceedings.

NEW SOUTH WALES.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Practitioners Act*, 1938-1939, of New South Wales:

Hollings, George William, M.B., Ch.B., 1920 (Univ. Leeds), 9, Mount William Street, Gordon.

Homewood, Arthur Norman, M.B., Ch.B., 1915 (Univ. Edinburgh), 6, Harrington Avenue, Turramurra.

White, Elizabeth, M.R.C.S., L.R.C.P., 1928 (Eng.), M.B., B.S., 1928 (Univ. London), D.P.H., 1931 (R.C.P.S. Eng.), c.o. Professor F. W. G. White, University of Sydney, Sydney.

Young, William Donald, M.B., B.S., 1928 (Univ. Melbourne), c.o. Sister Fraser, 91, Phillip Street, Sydney.

The following additional qualification has been registered:

McKellar, Charles Crawford (M.B., Ch.M., 1926, Univ. Sydney), F.R.C.S., 1935 (Edinburgh).

The following changes of name have been registered:

Asher-Smith, Laira Pomeroy (M.B., Ch.M., 1918, Univ. Sydney), to Perry, Laira Pomeroy, Killara.

Brandon-Jones, Mary (M.R.C.S., Eng., L.R.C.P., 1938, London), to Carter, Mary, Cremorne Point.

Smyth, Judith Kane (M.B., B.S., 1939, Univ. Sydney), to Best, Judith Kane, Warwick, Queensland.

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

McLaughlin, William Peter, M.B., B.S., 1939 (Univ. Sydney), 8, Claude Avenue, Cremorne.

The undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Peterson, Bruce H., M.B., B.S., 1941 (Univ. Sydney), Sydney Hospital, Sydney.

Reader, Sydney Ralph, M.B., B.S., 1940 (Univ. Sydney), Dapto.

Anderson, Nancy, M.B., B.S., 1940 (Univ. Sydney), 95, Cabramatta Road, Mosman.

Anderson, Peggy, M.B., B.S., 1940 (Univ. Sydney), Women's Hospital, Crown Street, Sydney.

Hellestrand, Jean M., M.B., B.S., 1941 (Univ. Sydney), Rachel Forster Hospital, Redfern.

Holmes, Roland Adrian Glennie, M.B., B.S., 1941 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.

Macleod, Kenneth William, M.B., 1941 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.

McMeekin, Hedley James Parker, M.B., B.S., 1940 (Univ. Sydney), Broken Hill and District Hospital, Broken Hill.

Retchford, Charles, M.B., B.S., 1940 (Univ. Sydney), Ryde District Soldiers' Memorial Hospital, Eastwood.

The undermentioned has been elected a member of the South Australian Branch of the British Medical Association:

Taylor, Robert Bromley, M.B., B.S., 1941 (Univ. Adelaide), 68, Northgate Street, Unley Park.

Diary for the Month.

JAN. 6.—New South Wales Branch, B.M.A.: Council (Quarterly).
JAN. 7.—Western Australian Branch, B.M.A.: Council.
JAN. 9.—Queensland Branch, B.M.A.: Council.
JAN. 13.—Tasmanian Branch, B.M.A.: Branch.
JAN. 30.—Tasmanian Branch, B.M.A.: Council.
JAN. 23.—Queensland Branch, B.M.A.: Council.
JAN. 28.—Victorian Branch, B.M.A.: Council.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

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